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ABSTRACT

This report describes the major outcomes of the Response to Educational Needs Project (RENP), a compensatory education program implemented by the Anacostia district of Washington, D.C. The problem of students falling further and further behind is discussed with particular reference to reading and mathematics achievement, training teachers to cope, and increasing citizen participation in the educational process. An overview of RENP is given in terms of its response to the above problems. The report then goes on to detail RENP's approach to teacher inservice training; parent and community involvement in the program; and what can be expected from RENP regarding student achievement, impact on teacher competencies, and parent/community involvement. The results are discussed first in terms of what happened to the students. Their performance on the Comprehensive Test of Basic Skills (CTBS) are compared for the three times they were tested, between October 1976 and October 1977. Secondly, the RENP classroom is compared with non-RENP classrooms as regards teacher control, grouping, materials, and teacher evaluation. Lastly, parent/community involvement is examined to find out whether it lived up to expectations. The report ends with an examination of the cost of RENP and a discussion of its cost effectiveness. (MC)

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AN EVALUATION OF THE RESPONSE TO EDUCATIONAL NEEDS PROJECT (RENP)

Volume I: The Final Report

By

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Blue Bell, Pennsylvania

April 1978

Submitted to the

U.S. Department of Health, Education and Welfare
National Institute of Education
Washington, D. C. 20208

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U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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RENP - Abstract

This report describes the major outcomes of the Response to Educational Needs Project (RENP), a Compensatory Education program located in the Anacostia Region of Washington, D. C.

PROGRAM DESCRIPTION

RENP has as its major goal to reduce the achievement gap between students in Anacostia and other students around the country. Operating in twelve elementary and one junior high school, RENP attempts to achieve its goal by providing continuous on-site inservice education in the teaching of reading and mathematics to all 4th, 5th and 6th grade teachers within its client elementary schools, and to twelve teachers in the junior high school. Training in the "diagnostic/prescriptive" approach to the teaching of reading and mathematics is provided by "Program Facilitators", in residence at each school, who work with each teacher for approximately three hours per week. Training is individualized to the needs of each teacher as diagnosed by the Program Facilitators and teachers working together. All training occurs during the normal school day and teacher's classes are staffed by aides, usually specially-trained community residents, while teachers are receiving training. Aides also work with individual students and small groups of students in Reading Centers and Math Laboratories which exist at each RENP school.

In addition to providing inservice training to teachers, RENP encompasses a Parent/Community Involvement component which attempts to encourage the participation of local citizenry in the region's schools at the policy-making level through regional and local school boards, and at the classroom level. The latter is accomplished by hiring local residents to serve as teacher aides and encouraging others to serve as classroom volunteers. Community organizers, the key staff of the Parent/Community Involvement component, work with parents to inform them of their children's progress in the program and act as referral agents between parents and other community agencies.

THE STUDY DESIGN

The RENP summative evaluation was designed to test the effectiveness of the program in terms of student outcomes, teacher behaviors in the classroom and parent/community involvement. To accomplish this, the following approaches were employed:

- Student outcomes were defined in terms of scores on the California Test of Basic Skills in Reading and Mathematics. Students in both RENP and comparison (Non-RENP) classrooms were tested three times: at the beginning of the school year (Fall 1976), at the end of the school year (Spring 1977) and at the beginning of the following school year (Fall 1977). Analyses of these data included tests of significance of differences between RENP and Non-RENP classroom mean raw scores and mean growth scores as well as differences between RENP and Non-RENP students in terms of percentile points gained or lost. Differences were examined by grade and by three achievement levels (high achievers, middle achievers and low achievers).

- Teacher outcomes were defined in terms of classroom behaviors and attitudes. These data were obtained for RENP and Non-RENP classromms in three ways: through structured observations, unstructured observer field notes and personal interviews with teachers. The analysis of structured observation data included tests of significance of difference between RENP and Non-RENP teachers by grade on various classroom processes deemed important by screening the literature and by examining program objectives. The field notes and interview data were content analyzed to add context to the observation data.

- Parent/Community outcomes were defined in terms of parent participation in the regional and local school board meeting and presence in the classrooms as aides and volunteers. All data were necessarily subjective, based on personal interviews.

RESULTS

Program effectiveness outcomes for students, teachers and parents/community are summarized briefly below:

- Effectiveness of RENP in terms of student outcomes. Statistically significant differences in student outcomes were examined using three different metrics.

Raw Score Metric

RENP was more effective for:

* 4th and 5th grade in Reading Comprehension
* 6th grade low achievers in Math Total score
* 5th grade low and high achievers in Math Computations
* Middle achievers in Math Concepts

Non-RENP was more effective for:

* Middle achievers in Reading Vocabulary
* 4th grade low achievers in Math Total score
* 5th grade high achievers in Math Total score
* 5th grade middle achievers in Math Computations

Growth Score Metric

RENP closed the achievement gap more for:

* Low achievers in Reading Vocabulary
* 4th and 5th grade in Reading Comprehension
* 5th grade high achievers in Math Total scores
* 6th grade low, middle and high achievers in Math Total
* All groups in Math Concepts, particularly middle achievers
* 5th grade low and high achievers in Math Computations
* 6th grade low, middle and high achievers in Math Computations

Non-RENP closed the achievement gap more for:

* Middle achievers in Reading Vocabulary
* 4th grade low achievers on Math Total scores
* 5th grade middle achievers on Math Total scores
* 4th grade low, middle and high achievers in Math Computations
* 5th grade middle achievers in Math Computations

Percentile Points

RENP overall had a higher percentage of students who gained percentile points for:

* Low and high achievers in Reading Vocabulary
* Low achievers on Math Total scores
* Middle achievers in Math Computations
* All groups in Math Concepts

• Effectiveness of RENP in terms of teacher outcomes.

Seven classroom processes, identified from the literature as related to increased student achievement, were used to compare RENP and Non-RENP classrooms. RENP classrooms were characterized by more time spent on:

* Time-on-task activities
* Direct instruction by the teacher
* Use of small and large groupings

Non-RENP classrooms were characterized by more time spent on:

* The use of highly structured materials

Both RENP and Non-RENP ranked high on use of convergent questions and having a warm, supportive atmosphere.

RENP classrooms, as expected, met their four program objectives:

* They generated specific learning plans for their students, based on diagnostic test results.
* They used the diagnostic test results and in the absence of such test results, developed tests of their own for assessing student needs.
* They had clear lesson objectives that were understood by most of their students (Non-RENP classrooms were also observed to meet this criterion).
* They used the Math Laboratories and Reading Centers available within their schools.

• Effectiveness of RENP in terms of parent/community involvement. Personal interviews revealed:

* Some parents and community residents have become effective policy-makers and problems solvers.
* Community residents involved with the project have a more positive attitude toward the schools than they did prior to contact with the project.

* Some parents and community residents feel that schools are trying to become more responsive to the needs of the community.
* The Regional School Board, composed of community residents, has become a permanent fixture and oversees all schools in the Region.
* Local school boards, partially composed of community residents, have become effective in solving local problems and involving citizenry in the schools.
* Community residents still function as teacher aides, whose salaries, since the termination of funding for the project, are being paid by the District of Columbia Public School System.

THE COST OF RENP

* RENP costs about $630 per student (or $16,664 per class) in addition to the normal costs of educating a student in the District of Columbia.
* RENP does not have to be implemented on a full scale nor does it have to follow the exact model of Anacostia.
* Existing rather than additional resources can be utilized.
* However, the question still remains as to whether any additional expenditures can be better spent on alternative approaches to achieving the goals of RENP.

SECTION A - THE PROBLEM

CHAPTER I Introduction

CHAPTER II A Response to the Problem

CHAPTER I

INTRODUCTION

The late 1960s can be characterized, in the United States, as an era of massive social unrest, encompassing unprecedented racial tensions, an unpopular and escalating war, political assassinations, and a generation of youth demanding substantive changes in the socio-political value system upon which the United States had operated since the end of the second World War. The changes and tensions sweeping through American society during this period were epitomized by the urban riots which occurred in some of America's largest cities during the summer of 1967, and by a burgeoning civil rights movement under whose rubric hundreds of thousands of disenfranchised American citizens demanded assurances of fundamental civil liberties. American education during this period was not immune from the sweeping changes being woven through the American social fabric, and the ever-increasing and vocal demands of local citizens to reassume control over the education of children attending neighborhood schools is perhaps best understood within this context of social change.

The community of Anacostia, a largely Black, geographically isolated section of Washington, D. C., shared several characteristics with other minority neighborhoods of other major American cities during this time. Responding to the changing ethos of American culture, then President Lyndon B. Johnson, in 1968, promised the people of Anacostia ten million dollars to develop and implement a series of broad-ranging community improvement programs to alleviate many of the pressing social, political and educational problems inherent in that community. Johnson's promise to the residents of Anacostia was the genesis of a decade-long series of events, of which this report, represents the culmination. For, while the residents of Anacostia never received all of the funds promised to them, they did in fact receive most of them. The major product of this expenditure was a Compensatory Education program known as the "Response to Education Needs Project"

(RENP). The political evolution of RENP is well documented in another report to be published by the National Institute of Education.[1]

Though originally funded by the United States Office of Education, the National Institute of Education assumed responsibility for funding RENP in 1973. At the point at which NIE assumed responsibility for the program, it had already progressed through a turbulent, often volatile history, characterized by decisions to terminate funding, and subsequent political pressure upon the United States Office of Education and Congress by local citizenry to reinstate funding. The community support for the project, demonstrated by sit-ins at the United States Office of Education and a massive letter writing campaign to various members of Congress, had given the project a certain notoriety both within the Federal bureacratic structure and within Congress itself. Upon assuming stewardship of the program in 1973, NIE was confronted with a project which had undergone radical changes in structure and massive turnover of key administrative personnel. Though the program had been in operation, in various forms for approximately four years, it had never achieved stability; nor had it been the subject of rigorous evaluative study. Thus, one of the first tasks undertaken by NIE was to assist the project in becoming stabilized. Following these efforts, the National Institute of Education funded an intensive four month formative evaluation by Richard A. Gibboney Associates, Inc. which, at its conclusion, indicated that, in the judgement of the formative evaluators and an external panel of reviewers, the program had achieved sufficient stability to undergo a summative evaluation. This report presents the results of that evaluation.

It is the primary goal of this report to describe the nature and structure of the project, and to analyze some of the effects which

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1 Nakamura, R.; RENP: An Historical Perspective, 1978.

it had upon students, teachers and community residents who came into contact with and were served by it. Unlike many evaluation reports, this document is not intended for the evaluation practitioner; neither is it intended as a source document for those who conduct educational research. Rather, it is written for the educational practitioner and policy-maker interested in some or all aspects of the "RENP Approach" to compensatory education and how these approaches measure up against other similar approaches that have been tried in the past. Those interested in the technical details of the evaluation, or the subsequent analyses of the data, are referred to Volume II of this report, which contains the technical appendices.

It is hoped that this report will give a basic understanding of the Response to Education Needs Project. That it will provide an insight into the approaches utilized by RENP in terms of the larger context of the many strategies attempted over the years to improve student achievement in reading and mathematics, to improve teacher performance, and to augment the opportunities for parents and community leaders to become involved in the functions of local schools. Finally, since this project can be construed as an educational change strategy set within a large urban school system, the report should be able to depict some of the effects of that change strategy upon the system itself.[2]

RENP was an attempt to marshal a wide array of forces to improve student achievement in reading and mathematics. A description of the nature and extent of the problem to which the project was directed follows.

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2 Cooper, B.; "BEYOND IMPLEMENTATION: The Analysis of Change in the District of Columbia Public Schools", 1978.

WHAT IS THE PROBLEM?

The major goal of RENP is to increase the reading and mathematics achievement of students within the Anacostia region of Washington, D.C. This goal in itself, and the subsequent program structures developed to achieve it, suggest that for RENP specifically and for many compensatory education programs in general, the problem may actually be described as a series of three interrelated problems, all of which interact and impinge ultimately upon the notion of increased student achievement. These problems may be described as follows:

- Student Achievement - Falling Further and Further Behind

  The concept of student achievement, particularly as it pertains to such crucial basic skills as reading and mathematics can be judged in several ways. Teachers may make subjective judgments regarding the progress of their students in each of these subjects from year to year; they may develop tests which measure the extent to which students appeared to have mastered materials which teachers believed they have taught; they may administer examinations contained within the teachers' guides which accompany most major reading and mathematics curricula; or they may administer achievement or norm referenced tests. While the fairness or utility of norm referenced achievement tests has been, and continues to be, debated within the educational community, the fact remains that at present they represent the only yardstick by which student knowledge and/or growth in reading and mathematics can be compared to that of other students around the country. To provide such a yardstick, test developers and publishers have developed norms, usually presented in percentile rankings or grade point equivalents, which allow teachers and school district personnel to determine how their students measure-up against other students.

For example, using "grade-equivalent scores"[3] it is expected that students exposed to a nine month school program will exhibit a years worth of growth or achievement each year that they are in school. Thus, for example, most students who begin grade four reading at a beginning grade four level (4.0) should, by the time that they reach grade five, be able to cope successfully with materials written at a beginning grade five level (5.0).

For many students, however, both within the Anacostia region of Washington, D. C. and around the country, such an anticipated achievement growth does not occur. Because many students do not conform to normal growth patterns, an achievement gap between such students and those who exhibit expected growth patterns develops. While the size of this gap may fluctuate from school to school and city to city, the presence of such a gap is widely accepted by those who design and conduct compensatory education programs. Unfortunately, the achievement gap does not remain static throughout a child's educational experiences. It is likely that, given the ways in which achievement is measured and growth expectations are determined, that a child who begins his or her elementary school education at an achievement level below that of his or her peers will, over the course of the next several years, unless exposed to special instruction, fall further and further behind.

The problem then is not only that there exists an achievement gap between educationally disadvantaged students and other students around the country, but that the gap is not con-

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3 The authors recognize the shortcoming of grade-equivalent scores since they do not possess an equal interval property. They are used here, however, since they best illustrate the educational gap at which compensatory educational programs are directed. (See Horst, D.P.; What's Bad About Grade-Equivalent Scores? Technical Paper No. 1, ESEA Title I Evaluation and Reporting System: Mountain View, Ca., RMC Research Corp., 1976; and Echternodt, G.; Grade-Equivalent Scores. NCME Newsletter, Spring 1977.)

stant, rather it is ever widening. It is, thus, logical to assume that low achieving students will experience growing frustration within schools, and may for all practical purposes become functionally illiterate and ultimately may develop such feelings of inadequacy that they drop out of school as soon as they are able. At that point they may be ill equipped to undertake productive and fulfilling lives.

While the precise dimensions of the achievement gap problem are not known, it permeates the educational system of the United States. Since the passage of Title I of the Elementary and Secondary Education Act in 1965, several billion dollars have been spent in an effort to remedy the problem. Within Washington, D. C., however, as in many other large metropolitan areas, despite the many dollars spent and the numerous innovations developed to narrow this gap, it has not been narrowed. One can, therefore, view RENP as another compensatory education approach designed to deal with the problem of narrowing, and hopefully eliminating, the achievement gap.

- Training Teachers to Cope - The Problem of Inservice Teacher Education

Over the past six or seven years several major research studies investigating the relationship between teacher behaviors and student achievement growth have isolated a number of specific teacher competencies or instructional behaviors which seem to relate to increased student achievement. (Stallings and Kastowich, 1973; Stallings, 1978; Brofy, 1974; Rosenshein, 1973.) While such studies are extremely useful in understanding the dynamics of classroom processes as they relate to student achievement, they are too recent to have made a significant impact upon the preservice education received by most teachers. If, as it has been estimated, the hiatus between knowledge gained through research and its ultimate utilization or impact in the educational system is approxi-

mately ten years, then it is logical to assume that most teachers are not currently equipped to cope with the problem of a widening achievement gap, at least as a function of the training which they received during their preservice experiences. That is, while teachers may recognize the problem, they have not, as a rule received training in the specific instructional strategies which research indicates may help alleviate it.

Consequently, for those who would design programs intended to narrow or eradicate the achievement gap described above, an immediate problem is how to design inservice educational systems for teachers which would allow them to acquire the requisite instructional skills. Several approaches to the problem have been suggested and tested. If teachers are perceived as the primary locus of responsibility for the improvement of student achievement in reading and mathematics, then they must be provided with the tools which will enable them to deal with such responsibilities. Thus, RENP may also be considered within the context of teacher inservice education delivery systems.

- Increasing Citizen Participation in the Educational Process - The Problem of Community Alienation from Schools

Control of the content and structure of public education within the United States has historically fallen within the authority of the States. While States have generally assumed the responsibility for establishing general guidelines for public schooling, such as, curriculum content, mandatory school subjects, and matters pertaining to the certification of teachers, the responsibility for articulation and implementation of such guidelines has been assumed by local school districts.

Thus, the majority of control over public education may be found at the local level and the history of American public education may be characterized by the involvement of the local citizens in their schools. Further, since the bulk of public education has been, and still is, funded through property and other local taxes, schools may be viewed as community institutions which must be responsive to the needs of the communities which support them. Thus, both legally and financially, the involvement of local communities with local schools has been an integral notion of American education.

While the generalization cited above still holds for the majority of local school districts within the United States which are situated in suburban or rural areas, in the larger urban areas of the country the involvement of local citizens within the schools has gradually diminished over time as schools became bureaucratized - a development which began about one-hundred years ago.[4] As urban school systems have become ever larger and increasingly more unwieldy, and as the demands placed upon such school systems have increased, local citizens have become displaced by cadres of professional administrators and non-elected school boards. Since most urban school systems constitute single school districts in which the concept of community schools has become ever more diffused and active citizen involvement has diminished even further, how can urban school systems, responsible for educating hundreds of thousands of students within a single district, be responsive to, or hope to involve the community? While rural and suburban school system still tend to operate within the context of communities which are rather easily defined, what is the community context within which larger urban school systems operate? Further, even if the concept of community can be

4 Katz, Michael B.; Irony of Early School Reform, Beacon Press, Boston 1968.

understood within urban areas, how can school systems actually involve, or even be responsive to a diverse local citizenry comprised of hundreds of thousands and sometimes even millions of people?

As urban school systems have grown, and as more and more responsibility for the design and operation of such systems has reverted to educational professionals, so too has the feeling of alienation from the school system grown on the part of the residents of these urban areas- particulary residents of the inner-city regions of large cities. Several of America's largest cities felt the wrath of the inner-city residents in the late 1960's and early 1970's as these citizens demanded to assume community control over their schools.

The problem then confronted by RENP and others who would aspire to the involvement of local citizens in the local educational process was in developing mechanisms which permit and encourage such participation on the one hand, while simultaneously recognizing the responsibilities of the educational professionals for the day-to-day operation of the system. RENP's attempt to inform the local citizenry about its program, and get them involved may thus be viewed within the larger and more general context of the providing for citizen participation in the management of local schools.

EVALUATION OVERVIEW

The evaluation design employed in this study was directed toward examining the effect of RENP on the three problem areas cited above. Detailed descriptions of the methodology will be found in specific chapters dealing with each problem. The following is a brief overview of the evaluation design.

• Design for examining the impact of RENP on student achievement. Student achievement was defined in terms of CTBS test scores. The CTBS yields seven scores: three in Reading (Reading Total, Reading Comprehension and Reading Vocabulary) and four in Mathematics (Math Total, Math Computations, Math Concepts and Math Applications). All analyses were repeated for each of the seven scores to determine the effect of RENP on each area of achievement.

Students were tested at three different points in time: once in the Fall of 1976 (October), once in the Spring of 1977 (May) and once in the Fall of 1977 (October). The CTBS Fall 1976 scores provided a baseline upon which to compare the progress of students from Fall 1976 to Spring 1977 to Fall 1977. Detailed analyses compared the RENP and Non-RENP students' scores at the beginning of the year, the end of the academic year and again at the beginning of the following year. These results are presented in Chapter VI, with detailed data and analyses included in Appendices A through K in Volume II.

• Design for examining the impact of RENP on teacher behaviors. Teacher behaviors were defined according to ten criteria, drawn from the literature on classroom process research and from program documents. These criteria were:

* Time on Task
* Direct Instruction
* Grouping
* Classroom Management
* Use of Convergent Questions
* Use of Highly Structured Materials
* Classroom Atmosphere
* Learning Plans for Students
* Utilization of Criterion Referenced Test Results
* Clear Lesson Objectives.

The data upon which the classrooms were described on these criteria stemmed from three sources. The first consisted of structured observations of classroom processes. These structured observations used a data collection instrument which recorded the subject matter being taught, eleven categories of classroom activities and nine categories of materials being used in the classroom. It also provided for recording the number of groups within the classroom, the number of students in each group and the type of interaction/non-interaction behavior occurring. The structured observations were conducted twice in each classroom over a four week period. The data collection instrument basically provided for three time-samples of classroom behavior during each observation. Appendix L contains the instrument.

The second source of data on teacher behavior came from teacher interviews, eliciting information related to the program and its implementation. And lastly, the third source of data was provided by extensive observer field notes, completed shortly after each use of the structured observation instrument. These field notes provided a context for the instrument data.

Analyses of structured observation data compared the percent of student time (averaged across the time-sample observations) spent on each activity. Chapter VII presents these findings. Again, the data and analyses may be found in the Technical Appendices M through P, Volume II.

- Design for examining the impact of RENP on increasing citizen participation in the education process. Of all the three problem areas cited, this was by far the most difficult to evaluate. Criteria for evaluating the impact of RENP were stipulated based on the literature and responses

of program personnel. Data collection strategy was largely limited to unstructured observations recorded in the form of evaluator field notes. These results are necessarily subjective and are presented in Chapter VII.

Finally, the cost of the RENP inservice delivery system was examined. This, by necessity was a current operating cost evaluation and did not include start-up costs. Nevertheless, the evaluation provided some guidelines as to the cost of RENP. Chapter IX presents the cost results. The cost methodology is presented in Appendix Q of Volume II.

In summary, the evaluation design employed attempted to examine the impact of RENP to the greatest extent possible in the three problem areas of student achievement, teacher behavior and citizen participation in the educational process.

CHAPTER II

A RESPONSE TO THE PROBLEM

THE RESPONSE TO EDUCATIONAL NEEDS PROJECT (RENP) - An Overview

The Response to Educational Needs Project is a compensatory educational program located within Region One (Anacostia) of Washington, D.C. Its major goal is to narrow the achievement gap between Region One students and other students both in Washington, D.C. and around the country. As suggested in the introductory chapter of this report, RENP attempts to attack the problem of student achievement simultaneously on two fronts: first through providing inservice training to teachers; and second by actively involving parents and community residents in the conduct of the program at both the policy setting and classroom level. Thus, RENP is a two pronged assault on the problem of student underachievement: one directed at teacher inservice education and the other aimed at achieving parent and community involvement within the schools - the combination culminating, hopefully, in improved student achievement in reading and mathematics. The intent of this section is to provide a brief overview of the project and its constituent elements. A more exhaustive description of each of the program's components may be found in the next chapter, which describes the RENP inservice approach within each of these areas.

The Policy-Making Structure

The grant under which RENP is funded was awarded by the National Institute of Education to the District of Columbia Public School System (DCPS). Ultimately then, DCPS is responsible for the conduct of the program and policies which guide it. In fact, however, DCPS is a decentralized school system consisting of six regions, each overseen by its own School Board and Associate Superintendent. The major policy-making body for Region One, or Anacostia, within which RENP is located, is the Area Board - in this case the Anacostia Community School Board (ACSB). This Board consists of elected representatives from the community

at large and is responsible for setting policies which affect all schools within the region. Therefore, it, and not DCPS, may be viewed as the major policy-making body from which the project receives its operating parameters.. Further, while the duties and responsibilities of the Anacostia Community School Board extend beyond the scope of a single program such as RENP, the Board was originally constituted as a direct result of the project in an attempt to increase community control and influence over local schools. DCPS has granted the ACSB de facto control over all elements of the project including the hiring of project personnel and the setting of policy.

Ten members of the ACSB have been delegated by the Board Chairman as members of a "RENP Committee" which is responsible for day-to-day monitoring of the project, and for suggesting project related policies for the consideration of the larger School Board. While the RENP Committee exercises no legal control over the project, in actuality it is the genesis of most of the major policy decisions made by the ACSB which affect the project.

In addition to the ACSB and the RENP Committee, each school within the Anacostia region has a Local School Board (LSB). One member from each of the LSBs serves on the larger regional school board. The Local School Boards are responsible for carrying out policies generated by ACSB and for generating mechanisms for adapting such policies to the special needs of their schools. Somewhat similar to the RENP Committee of the ACSB are the Unit Task Forces which also operate within each of the RENP schools. These task forces are responsible for adapting particular aspects of RENP to the needs of individual schools as suggested by the Local School Boards.

It should be noted that each of the various policy-making bodies not only occupies different rungs on a defined heirarchy of power within the context of the program, but in addition provides several vehicles by and through which community residents may become actively involved in the work of the project.

The Administrative Structure

RENP operates as a service delivery system within several schools in the region. However, there is a central administrative staff which is responsible for the implementation of policies generated by the Anacostia Community School Board and for the daily life of the project within the schools. The key administrative positions are as follows:

- Project Director - The Project Director is responsible to the Anacostia Community School Board and is charged with the duty of implementing ACSB policy decisions within the RENP program. He is also responsible for management of projects' daily financial affairs and acts as the interface between the project and local school principals.

- Assistant to the Director - Reading Component - The Director of the Reading Component is, as the name implies, responsible for the design and conduct of all inservice training activities concerning reading instruction. She is also responsible for the oversight of all of the teacher inservice programs.

- Assistant to the Director - Mathematics Component - Like her counterpart who directs the reading component, the Director of the Mathematics Component is responsible for designing and overseeing all inservice training experiences related to mathematics which occur in the RENP schools.

- Assistant to the Director for Parent/Community Involvement - The Director of this component is responsible for the design of strategies for both increasing parental and community involvement, and informing parents and community members regarding the operation of the program. Of equal importance, he is responsible for the training and conduct of "community organizers" who fulfill the mandate of this component within the RENP schools.

- Assistant to the Director for Management Services - RENP is a large project, diffused through several schools within a fairly large geographic area of Washington, D.C. It is important to both the Project Director and the ACSB to retain an accurate understanding of the operation of several facets of the project in each of the schools. It is the duty of the Director of the Management Services to provide such information as may be needed by the Director or the ACSB in formulating policy decisions or, as is more often the case, in determining how well given policy decisions have been implemented.

- Director of Public Information - While public information is not a component of RENP's operational program, the Public Information Officer (PIO) serves an important project function by responding to all requests from community residents, the press and other interested educators for information about the project.

The RENP Approach to Inservice Training

RENP provides continuous, on-site inservice education to all fourth, fifth and sixth grade teachers within twelve elementary schools in Region One. In addition, it provides similar training to twelve school teachers in one junior high school in the region. The training is delivered by "Program Facilitators" similar in many respects to master teachers, who work with other teachers within the client schools within an individual, small group, or large group context. Inservice education is geared to the individual needs of teachers as diagnosed by the Program Facilitators and the teachers themselves. The training is predicated upon the "diagnostic/prescriptive approach" to the teaching of reading and mathematics. Each Program Facilitator restricts her activities to a single school.

In addition to providing schools with Program Facilitators, RENP provides schools with Teacher Aides who are capable of temporarily teaching entire classes of students while the teachers are receiving training. Aides also have the additional responsibility of working with students in specially designed reading and/or mathematics laboratories on the remediation of specific skill deficiencies. As a rule, aides are community residents who have been specially trained in their duties by the Program Facilitators.

The RENP Approach to Parent/Community Involvement

The RENP approach to the involvement of parents and community members within the region schools is an eclectic one offering parents and other community members several potential types and mechanisms of involvement. Parents and community members have an opportunity to participate in the policy-making aspects of the project through the Anacostia Community School Board, the Local School Boards, and the Unit Task Forces (as described above). In addition, a limited number of parents have been trained as Teacher Aides - a position which offers them direct involvement with the project at the classroom level. In terms of the general community, however, the notion of "involvement" is epitomized in the presence of project personnel known as "Community Organizers". Community Organizers have two major job functions, the first is to act in a liaison function between local school administrators (i.e., principals and assistant principals) and the Local School Board Unit Task Forces. The second function is to provide a variety of needed services to parents including: informing parents about RENP, discussing with parents problems which their children may be having either within the program or within the school in general, and referring parents to various social services agencies within the community or general geographic area, when parents feel the need for such agencies.

The above discussion has attempted to provide a brief overview of the major structural components and activities of the RENP project. The discussion which follows will describe in more detail each of the two major aspects of RENP: providing inservice education to teachers and increasing parent/community involvement.

SECTION B - THE APPROACH

CHAPTER III	The Approach to Inservice Training
CHAPTER IV	The Approach to Parent/Community Involvement
CHAPTER V	What Can We Expect From RENP

CHAPTER III

THE APPROACH TO TEACHER INSERVICE TRAINING

INTRODUCTION

While compensatory education programs may vary in scope, structure and content, the common thread which joins all such programs is the "special needs" population with which they deal. Compensatory education programs provide services to students whose achievement in basic skills lags below that of their peers around the rest of the country. Since the early 1960's, program developers have believed that teachers who were responsible for delivering compensatory education services may need special training to most effectively provide such services to educationally disadvantaged students. Thus, most compensatory education programs place a great deal of stress upon the delivery of inservice education to teachers who would be working in such programs. While the assumption that compensatory education teachers need inservice training seems to be well accepted, there is no consensus regarding the nature of such training, where it should occur or how it should be accomplished.

One of the immediate problems confronting those responsible for the design and implementation of inservice education programs for teachers in compensatory education programs is deciding on the best place for such education. There are several possible locales at which inservice training could be delivered. Several compensatory education programs, including many Title I programs, and several Follow-Through Programs, elect to provide inservice training within the schools. Still other inservice training centers have been established by some districts for the purpose of consolidating all inservice education activities. Finally, other compensatory education programs have utilized the facilities of nearby colleges and universities for inservice training. While the problem of location regarding inservice education may not seem highly

important at first glance, it is conceivable that the location of such training may be related to the kinds of competencies which teachers acquire, to the teachers acceptance of the training experiences, and to the cost of providing inservice training. Also, it is possible that the location at which teacher inservice education is delivered may have implications for the building of an effective teaching team.

Our knowledge regarding the impact of the sites at which in-service education is delivered is at best spotty. Much of it tends to be descriptive rather than experimental - that is, we can describe the types of on-site and off-site training experiences that have been provided by programs in the past, but our ability to assess the impact of the location of such experiences according to the criteria of outcomes of teachers (and ultimately for students) is not strong.

WHAT ARE THE SPECIFICS OF THE RENP APPROACH TO INSERVICE EDUCATION

The approach to providing inservice education to teachers developed and implemented by RENP is similar in several respects to the on-site, continuous education approach using "master teachers" which other programs have used in the past. Further, like other programs, RENP utilizes aides to assist teachers both in the classroom and in specially equipped "reading centers and mathematics laboratories".

The strategy utilized by RENP to provide inservice education has been to locate "program facilitators" (similar to master teachers) in each school serviced by RENP. Program facilitators possess particular expertise in reading or mathematics, and serve as the vehicle through which all RENP inservice teacher education is provided. Each program facilitator spends approximately three hours per week with each teacher providing inservice training in the teaching of reading or mathematics. The training delivered by the program facilitators is based on the "diagnostic-prescriptive approach" to teaching. To a large extent the inservice education delivered to the teacher clients is individualized to meet the needs of each teacher, as reflected in a "teacher training plan" which is negotiated between a given program facilitator and a given teacher. The diagnostic-prescriptive model applies not only to the instructional approaches learned by client teachers, but to the process of inservice education service delivery as well. That is, within the program, client teachers are taught to diagnose student needs and prescribe specific learning activities in response to them.
Program facilitators function to diagnose the needs of their client teachers and to prescribe appropriate learning experiences which build upon these needs. Each aspect of the diagnostic-prescriptive approach to the delivery of inservice education as it operates within the context of RENP is described briefly on the following pages.

Diagnosis

During the diagnostic phase of the inservice program, program facilitators worked with individual teachers to identify specific instructional competencies which teachers seek to improve during the remainder of their inservice experience. Diagnosis within RENP is a two-pronged effort, consisting of a needs assessment which is completed by each teacher, and the administration of an instrument which measures the degree of teacher knowledge of reading or mathematics teaching. Data elicited through the administration of each of these instruments are analyzed by the program facilitator, in conjunction with individual teachers and specific needs are identified. These needs form the basis of a teacher training plan which identifies teachers needs and prescribes specific activities designated by the program facilitator as meeting these needs.

Prescription

Once teacher needs have been identified, and the teacher training plan has been developed, specific instructional experiences, geared to each of the identified needs are "mapped out" for teachers by program facilitators. Program facilitators are given wide latitude by the project in devising strategies to meet teacher needs. The approaches utilized by program facilitators include:

- Theory sessions, in which specific learning theories are discussed.
- Demonstration lessons during which program facilitators will "take over" a given teachers class to demonstrate how a specific concept should be taught or a specific instructional competency should be manifested in the classroom.
- Individual conferences between teachers and program facilitators, during which teachers and program facilitators discuss specific learning materials which the former might utilize with particular students to remediate skill deficiencies.
- Large-group training sessions within which teachers and program facilitators discuss problems occurring in implementing suggestions made by program facilitators in previous sessions.

- Small group discussions, during which program facilitators will work with groups of three to five teachers on specific instructional competencies.
- Observations, during which program facilitators will observe their client teachers in the classroom trying to implement some of the program facilitators suggestions. Subsequent to such observation sessions, program facilitators provide their client teachers with immediate feedback on their performance.

As the background, previous training and teaching experience of the RENP client teachers varies, so too do their specific inservice needs. It is difficult, therefore, to generalize about the specific content of the teacher training provided to most teachers. However, as stated earlier, the overriding goal of the inservice training provided by RENP is to enable teachers to become comfortable with the diagnostic-prescriptive approach to the teaching of reading and mathematics. Inherent within this approach, program facilitators work with all teachers to develop or enhance the following general skills:

- The diagnosis of student needs. Essentially this entails assisting teachers in learning how to utilize appropriate levels of criterion-referenced reading and mathematics tests which are administered throughout the District of Columbia Public School System twice a year, and to further assist the teachers in correctly interpreting the data from such tests.
- The construction of individual student learning plans. On the basis of the criterion-referenced tests results teachers are taught by program facilitators how to construct learning plans for each student which prescribes specific learning activities, using existing curriculum materials, designed to improve skill deficiencies revealed by the criterion-reference test data.

- The individualization of instruction. Since RENP classrooms are heterogeneous and encompass students of different ability levels in reading and mathematics, the program facilitators tend to help teachers improve their skills in individualizing instruction by grouping students within the heterogenous classrooms. Program facilitators worked with teachers on establishing appropriate groupings within a classroom, procedures for combining small group instruction and instruction for individual students during the same lesson. They all attempted to help teachers with individualization within large classroom groups, procedures for setting up "peer tutoring" systems, and other approaches to individualizing classroom instruction to meet the needs of specific students.
- The integration of reading and mathematics within other content areas. Elementary school teachers are, as a rule, responsible for the teaching of "intact" classes. That is, they instruct the same group of students throughout the course of the day, not only in reading and mathematics, but in social studies, science, geography, and other areas as well. Program facilitators assist their client teachers in planning techniques for using subject areas other than reading and mathematics to work with students on basic skills. For instance, a social studies lesson may also serve as a means for reinforcing specific reading skills, and a lesson in science may serve as an ideal context in which to reinforce certain skills learned during mathematics instruction.
- The selection of instructional materials. The curriculum materials available to public school teachers in the District of Columbia Public School System are diverse and not restricted to particular reading or mathematics textbooks basal series. Thus, program facilitators work with their client teachers to identify a broad range of learning materials which may be used to teach and/or reinforce particular discrete objectives in the areas of reading and mathematics. Most of these materials are available to teachers within the classroom. The way in which the teachers will use such materials is delineated within the individual learning plan which teachers generate for each student.

In addition to the general competencies listed above, program facilitators are free to work with their teachers in other skill areas in which the program facilitators or the teachers themselves believe that assistance is needed. Program facilitators worked with teachers in such areas as helping students retain task focus, developing lessons on "test taking skills," utilization of reading and mathematics "kits" within the classroom, and the appropriate use of individual materials in the teaching of reading or mathematics.

As previously mentioned, criterion-referenced tests in reading and mathematics are administered twice each year - in the Fall and in the Spring - to each student in the District of Columbia School System. The reading and mathematics curricula of the school system are geared to the learning objectives measured by such tests. RENP must be viewed from this context since it is more a "service delivery process" than a specific program which proceeds from a "model" of teaching or learning to classroom practice. Rather, RENP is a specific attempt to help teachers achieve a better interface between the accurate diagnosis of those objectives which those students within a given level need to master and the curricular materials available to help students master them.

While all inservice education to teachers within the RENP project is delivered by program facilitators, such training is enhanced by teacher aides. As a rule, these aides are community residents who have received training by program facilitators in working with individual students or entire classes on specific skill areas. Essentially these aides take responsibility for entire classes while teachers are receiving training. In addition, however, aides may work with individual students or small groups of students on specific skill areas when the teacher decides that such students need additional work on particular learning objectives.

Labs and Centers

Improved mathematics and reading instruction is also augmented by "reading centers" and math labs" which are specially equipped areas in each RENP school containing material geared to student mastery of particular objectives. These reading centers and math labs are used in three ways:

- They are areas within which aides work with individual students, small groups of students or entire classes on one or more learning objectives.
- They serve as instructional centers to which teachers may, at their discretion, bring in entire classes of students to work on specific skill areas.
- They often serve as the locus of teacher training and program facilitators will work with individual teachers or small groups of teachers within the reading centers and math labs.

CHAPTER IV

PARENT AND COMMUNITY INVOLVEMENT

INTRODUCTION

RENP is not the first educational program which attempted to involve parents and the larger community in the daily life of regional schools. Neither does it represent the first attempt to make parents and community members an inherent aspect of the policy setting mechanism of a regional school district. The notion of "community control" was brought to public consciousness in the 1960's and epitomized by the teacher strike and subsequent community demonstrations in the Bedford Steyvesant section of New York. Since that time the notion of parent/community involvement has been articulated as a recurring theme through many programs and in several different variations. We have learned quite a bit about the forms which community involvement has assumed over the past several years; however, we know very little about the consequences of such involvement to parents, other community members, to students or to the schools themselves. We can describe what has occurred and is occurring, but we don't know much about the effectiveness of various approaches since the latter has not been rigorously studied. While the forms which community involvement assumes are diverse, and may vary not only from city-to-city, but also from area-to-area within a particular city, there are some general principles which seem to apply to most of the approaches to community involvement that have been reported to date.

Summary of General Principles

- Parents are viewed as being synonymous with "community" in most studies which described approaches to community involvement. The assumption is made that the <u>most important</u> non-school related people who should be involved within a given program, school, or school district, are parents of the students in that school.

- The degrees of intensity of community involvement is rarely addressed in studies which purport to involve the community. Few studies cite approaches to measuring the level of community involvement.
- The relationship between community involvement and possible effects on the achievement of children is at best unclear. Whether the active involvement of community members, especially parents, within schools has any effect on student achievement is largely open to question. There are no studies which have demonstrated that changes in student achievement is a direct consequence of parental or community involvement.
- Regardless of the approach taken to increase community involvement, most studies offer no data regarding effectiveness. Thus, the outcomes of various approaches to involving the community within the schools are not certain.

WHAT ARE THE DETAILS OF THE RENP APPROACH TO PARENT/COMMUNITY INVOLVEMENT

As stated earlier, the RENP approach to the involvement of parents and community members in the regional schools is eclectic, combining several different strategies. The RENP project was not "invented" with unique strategies; rather it has attempted to use and build upon the best that is already known about involving parents and community members in schools. As such, RENP's contribution may be that it has, using existing techniques, forged a new pattern of involvement strategies which are broader and more comprehensive than those attempted in the past by other programs. Further, because the parent/community involvement component of RENP is not an isolated function, it should be seen as one essential thread of an integrated fabric of attempted educational reform.

RENP Offers Parents and Community Residents Several Avenues to Become Involved Within the Schools.

These avenues exist simultaneously at the policy-making level, the level of direct education of children and at the support level. The specific strategies employed by RENP are as follows:

- The involvement of parents and community residents at a policy-making level - RENP offers parents and community residents three opportunities to become involved with schools in policy-making. They are:

  * serving on the regional school board. As mentioned earlier, the Anacostia Region of Washington has been designated by the District of Columbia Public School Board as a sub-district and is known within the school system as Region 1. Schools within Region 1 are overseen by a regional school board known as the Anacostia School Board which has the responsibility for generating policy and monitoring program implementation within all the Region 1 schools. The regional board is elective. Community residents serve on the board for two-year terms.

The Anacostia Regional School Board has been in existence for approximately eight years and, while its duties include the monitoring of RENP, they go beyond any specific program. However, prior to the existence of RENP there was no regional board. The latter began life as a committee of concerned citizens whose charge was to develop and monitor the RENP program. It is highly likely that without RENP the Regional School Board would not have been created.

* serving on local school boards. The RENP program was overseen at the school level by local school boards. These boards are responsible for establishing the best "fit" between RENP and other programs of the schools; for monitoring all school programs; and for making sure that the school programs are responsive to student needs. Like the Anacostia Community School Board, the local school boards have responsibilities which go beyond the monitoring of RENP. However, the regional duties of these local boards were restricted to the monitoring of RENP. Thus, in a real sense, RENP was responsible for the action forming local school boards.

* serving on policy-making committees. Both the regional and local school boards have formed policy committees to deal with specific educational concerns. While these committees always include representatives from the regional or local boards, their membership is not restricted to those holding seats on such boards and is open to parents and members of the community as well. Many of these committees are not exclusively concerned with matters pertaining to RENP. It is doubtful, however, without the experience and expertise gained by working on the RENP project, particularly during its formative years, that such committees would exist.

• Involving parents directly in the education of children - RENP offers three ways of participating directly in the education of children. They are:

* serving as teacher aides. Like several other compensatory education programs, RENP has hired and trained several members of the community to serve as teacher aides. In the context of the RENP program, aides are trying to work with students on discrete skills in reading and mathematics. They are also trying to interpret test results and prescribe learning activities for children based on such test results.
* serving as community organizers. RENP has trained several community members to work with local school boards and with parents to improve the educational environment of the region. Community organizers work directly for the parents' community involvement component of RENP project. In their work with community school boards, these community organizers serve as focal points to the community which are useful to the school boards in making decisions, and also as catalysts in bringing school related problems to the attention of the local boards. Working with parents, community organizers act as referral agents, directing parents to various social agencies that can assist them in non-school related problems. Community organizers serve as conduits of information between the school and the parents, informing parents of school-related problems which their children might be encountering and conversely informing the school about family-related problems which may affect a child's school work.
* serving as volunteers. As part of the RENP program parents are encouraged, largely through the offices of the community organizer, to serve as volunteers and/or observers in the classrooms. While they are not paid for volunteer activities, parents are paid if they serve as teacher aides or community organizers.

- Parents in a supportive role - RENP offers parents the opportunity to become involved in schools in several informal capacities. First, during the course of the program, parents often banded together to apply pressure on the District of Columbia School Board to rectify the problems which the parents and region perceived. Second, parents have on several occasions during the life of the project, inititated fund raising-activities to purchase materials, take children on trips, or paid for other activities which are not covered under the terms of the RENP grant. Finally, parents are encouraged to visit with their children's teachers as often as they desire. Such visits bring parents into frequent contact with the school.

The RENP approach to parent/community involvement can be viewed as a series of mechanisms which attempt to involve parents and community members within the activities of the school at several different levels. While it has been presumed that such involvement will enhance the potential for increased student achievement, it is equally important to recognize that parent/community involvement in itself is an important outcome. It serves as a mechanism for allowing the community to participate in the policies and direction of school activities within the region thus, making the school more responsive to local community needs.

CHAPTER V

WHAT CAN WE EXPECT FROM RENP?

RENP aspires to increase student achievement by improving teacher competencies in the teaching of reading and mathematics and by involving parents and community members in the life of the schools. Thus, it is logical to assume that, if successful, RENP should have an impact in three areas: on student achievement, on teacher performance and on parent/community involvement. As stated earlier, unlike several other compensatory education programs, RENP is not deduced from a "model" of what constitutes ideal teaching, ideal learning, or even ideal parent/community involvement. Further, it permits those most responsible for implementing inservice training and community involvement strategies broad latitude in dealing with their respective clientele. Thus, the program has not developed an idealized set of criteria or "performance objectives" which can be used as standards against which to judge whether or not it has succeeded in having an impact in each of these three areas. How, then, should RENP be judged? There are several potential criteria within each of RENP's three major impact areas which could be used. For the most part, such criteria can be derived from what is already known about the impact of other programs, similar in many respects to RENP, within each of these areas. This following section suggests the criteria within each of the three impact areas by which the success of RENP may be judged.

REGARDING STUDENT ACHIEVEMENT

What is reasonable to expect regarding the achievement of students whose teachers have received RENP treatment? The question is easy to pose and difficult to answer. What may be viewed as "reasonable" growth by some may not be perceived in the same way by others. There

are a number of potential criteria by which such growth could be judged. Each is discussed briefly below and judgements are made regarding whether or not each criterion should be held as a reasonable expectation for this program.

"Normal" or Month-for-Month Growth

To approximate average student achievement, it is "expected" by some that students should exhibit approximately one year of achievement growth for every academic (nine month) year spent in school. Thus, students who enter 4th grade with a 4.0 achievement level should, at the end of 4th grade have an achievement level of approximately 4.9. Typically, however, compensatory education students have not exhibited such growth. It is probably unreasonable to expect that students whose teachers have been exposed to RENP treatment will exhibit such growth when few other compensatory education programs have demonstrated an ability to achieve such an impact.

Statistically Significant Differences Between RENP and Non-RENP Students

The "success" or "failure" of many programs is judged on the basis of whether or not there is a statistically significant difference between a "treatment" group and a "non-treatment" or control group. Such a criterion does not deal solely with the magnitude of the difference which may exist between two groups. It provides an estimate of whether the differences between two groups occurred by chance or may be attributable to some other factor, e.g. the treatment. In the case of RENP, such a comparison may not be fair or appropriate. Although there is an identifiable "RENP Treatment Group" made up of those students whose teachers received RENP inservice education; many students in the "non-treatment group" may also have participated in other compensatory education programs even though their teachers were not exposed to RENP inservice training. While it was anticipated that there would be a statistically significant difference between the reading and mathematics achievement levels of RENP and Non-RENP students, it may be that both groups of students improved dramatically. Thus, while RENP in our

hypothetical example might result in significant improvements in achievement, the Non-RENP experience could also have had a significant impact upon student achievement. Nevertheless, the notion of "statistical reliability" is so deeply ingrained in the educational research literature that it cannot be overlooked. For this study a .10 significance level was chosen (10% probability that differences are due to chance). It is an admittedly liberal level to ensure that RENP has every possible chance of demonstrating effects if they are present.

Educationally Significant Growth

This again is a difficult criterion to define, much less measure. What is "educationally significant" to some may be deemed irrelevant by others. Further, the definition obviously can vary by individual. A student who has demonstrated little achievement in the past and who then shows some moderate growth, even maintenance of pre-test percentile during an academic year, after having been exposed to a given program might well be perceived as having made a significant gain. However, the same growth pattern evidenced by a student who had consistently maintained pretest percentile during prior school years certainly would not be interpreted in the same way. In the case of RENP, which "treats" all students within a given grade, the problem is compounded in the fact that the students, as a group, exhibit a diverse range of achievement. One generalization that <u>can</u> be made about this population is that it has consistently demonstrated an "achievement gap" between its own performance and the performance of students of the same age around the rest of the country. It is therefore <u>reasonable</u> to expect that, if successful, RENP students will, by the end of the academic year, not have increased and hopefully will have reduced the achievement gap. In practical terms, this means, that <u>at the very least</u>, RENP students will achieve at the same percentile ranking relative to other students in the country at the end of the school year, as they did at the beginning of the school year. To maintain the same percentile during the course of a school year does require continued growth in achievement.

Maintaining Gains Over the Summer Months

One lament which is frequently heard among those who conduct research in compensatory education is that students exposed to such education do not maintain gains achieved during an academic year over the following summer months. Thus, they may begin the new academic year as far or further behind then they were during the previous academic year. Many argue that real achievement gain should be measured on a year-long basis, which includes the summer months. Let this be offered as a third criterion by which the success of RENP's impact on student achievement can be judged. It is anticipated that RENP students, therefore, will either maintain achievement gains earned during the previous academic year over the summer months, or will lose less of their academic year gain than will students who did not receive RENP treatment. Therefore, it follows that RENP students will begin a new academic year at an achievement level which approaches the level at which they ended the prior academic year.

In summary, three criteria have been suggested by which the success of RENP in having a noticeable effect on student achievement may be judged. It is expected that RENP students will reduce the achievement gap; it is expected that there will be a statistically significant differences between the achievement gains of RENP and Non-RENP students; and finally, it is assumed that RENP students will retain more of their achievement gain over the summer months than Non-RENP students.

REGARDING IMPACT ON TEACHER COMPETENCIES

It has been frequently stated throughout this report that RENP is not derivative of an "ideal model" of teaching or learning. Thus, RENP program developers have never generated a set of behavioral criteria which most teachers who have received training from the project should be able to demonstrate. Nevertheless, there are two sources for generating

criteria to judge the effect of RENP upon teachers. One set can be found in the results of recent studies on those teaching behaviors which impinge upon student achievement. The second set can be extrapolated from RENP program documents.

Criteria Derived From the Literature

There have been, over the past seven or eight years, several experimental studies designed to determine the relationship between given "classroom process variables" and learner outcomes. These studies suggest that there are several process-related variables which seem to be important for increased student achievement. It is important to note that, despite these studies, the "amount" or "mix" of these variables which should exist to promote maximum student achievement is largely a matter of debate. Further, the way in which such variables are operationally defined within the classroom often varies from study to study. The following criteria are suggested as general descriptors only - some or all of which should be present in classrooms in which teachers are thought to have maximal impact upon student achievement in reading and/or mathematics.

- "Time on task" - This variable, which is also described in the literature as "academically engaged time", indicates that students are likely to achieve more in reading and math if they spend a high percentage of time on activities directly related to reading and mathematics. For the most part, such activities may be defined as working through a carefully sequenced body of material. Thus, we would expect to find that students in RENP classrooms spend a great deal of time interacting with materials directly related to reading and/or mathematics. Again, the "ideal" amount of time which students should spend on task-related activities is largely a matter of debate. Some studies have concluded that approximately 55% of total class time is appropriate while estimates contained in other

studies range as high as 70%. If the mid point between these extremes is chosen we would expect to find RENP students engaged in task-related activities at least 60% of the total class time.

- Direct Instruction - Contrary to popular notions of education embodied in the alternative school movement of the late 1960s, recent research on teacher effectiveness has demonstrated that in the case of compensatory education students, classrooms in which teachers control the selection of activities and materials are more likely to exhibit greater achievement gains than classrooms in which students are free to participate in such decision making. Thus, we expect to find that RENP classrooms could be characterized as "teacher-centered" - meaning that teachers selected materials, activities and learning goals.
- Grouping - Within a classroom, teachers may chose to group students in a number of ways. Each student may essentially constitute his or her "own group" by working individually and alone or students may work in pairs, small groups (three to seven students) or in large groups. Further, the relationship between teacher activity and various classroom groups can vary. That is, whatever the grouping arrangement, the groups may be supervised or unsupervised. For example, a teacher may circulate freely around the room supervising a series of small groups, they may sit in the front of the classroom and encourage either individual students or small groups of students to approach her or him as they they have problems with materials, or a teacher may choose not to interfere at all with the work of individual students or groups. Contrary to many beliefs regarding individualization of instruction, recent research has demonstrated that classrooms characterized by teacher-supervised small and/or large groups demonstrate greater growth in reading and

mathematics achievement than classrooms in which students either work on an unsupervised basis and/or work alone or with one other student. Thus, ideally, in RENP classrooms, we would anticipate finding the presence of teacher supervised large or small groups and a minimum number of students who are working alone, unsupervised by a teacher.

- Classroom Management - The amount of time which teachers spend in "managing" his or her classroom takes away from the potential amount of time which students could be spending on task-related activities and has thus been demonstrated to be negatively associated with student achievement. Classroom management may assume many forms including teachers directing children to seating assignments, teachers asking students to distribute materials for the day, getting students "quieted down" so that they can begin the day's lessons, providing students with small lectures on teacher expectations regarding classroom behaviors and the like. While some amount of class time can and must be devoted to managerial functions, if teachers hope to have a maximum impact on student achievement, the less time which is devoted to management the better. Again, the literature does not reveal any "magic percentage" of time which teachers should ideally devote to management functions. In the case of RENP classrooms it is expected that teachers would devote a very small percentage of time to management.
- Use of "Convergent" Questions - Classrooms in which the questioning behavior of teachers is characterized by the asking of factually-oriented questions to which there is a "right" or "wrong" answer have a higher probability of exhibiting more growth in student achievement in reading or mathematics than classrooms in which teachers frequently engaged in "open-ended" questioning behavior which calls for students to express opinions. It is thus anticipated that RENP class-

room teachers engaged in predominantly convergent questioning and, further, that students receive immediate feedback to such responses.

- Use of Workbooks and Other Structured Material - This variable is closely related to the "time on task" notion described above. Succinctly, exposing students to structured materials which lead them through a sequence of small discrete steps may be an important factor which contributes to increased student achievement. Thus, it is hoped that RENP classrooms are characterized by the frequent use of such materials as workbooks and worksheets.
- Classroom Atmosphere - The "atmosphere" of classroom is difficult to define and even more difficult to measure. Yet, there is a good deal of research which supports the notion that classrooms which can be characterized as "warm" or "supportive" are more likely to be characterized by larger gains in student achievement in reading and mathematics than classrooms which are not so characterized. It is thus hoped that the ambiance of the RENP classrooms will be perceived as convivial and "warm".

The criteria delineated above were, as stated earlier, extrapolated from recent studies relating classroom processes to student achievement. These variables, in their aggregate, suggest that a "idealized" classroom be "formal" yet "warm" and be one in which students devote most of their time to task-related activities such as working on sequenced workbook-like materials. In addition, it would be one in which the teachers select the sequence of activities and materials and which are characterized by teacher supervised small or large groups. It should be noted, however, while these variables have been shown to consistently relate to increased student achievement, they are <u>not</u> an inherent part of the "RENP model". Some may argue that these criteria are unfair or inappropriate for judging the impact of RENP on teachers. Nonetheless,

the research which has identified these variables has been so consistent in demonstrating their relationship to improved student achievement that it is impossible to ignore them in the context of this study. Although the variables cited above are not explicit in the RENP approach, we can hope that they encompass values at least implicitly transmitted by program facilitators to their teacher clients. We would hope then that RENP teachers approach the paradigm suggested by Barak Rosenshine: "The more successful teacher is one who structures and selects the activities, who obtains a large number of academic engaged minutes, who tends to asks questions which have specific answers in a controlled practice format, who places students in groups where they are supervised by the teacher, and who does this in a controlled but convivial classroom".

Criteria Extrapolated from Program Documents

As described in the previous section, RENP instructs teachers in the details of the "diagnostic/descriptive approach" to the teaching of reading and/or mathematics. While program facilitators are expected to exhibit wide latitude in the specific services which they provide to teachers, there are certain inherent characteristics of the diagnostic/prescriptive approach which should characterize the kinds of services provided by all program facilitators. These characteristics, particularly in the context of RENP, constitute a second set of criteria by which the success of the RENP inservice education approach can be judged. These criteria are as follows:

- Individual Learning Plans for Students - One of the major intents of RENP is to enable teachers to both diagnose student needs based on criterion referenced tests results and to prescribe specific learning activities depending upon these needs. The intersect between student needs and prescribed learning activities should be reflected, according to the program docu-

ments, in a learning plan which should exist for each student within a teacher's classroom. Thus, if the RENP inservice education approach has been successful, we would expect to find up-dated learning plans for each student on file within every classroom.

- Utilization of Criterion-Referenced Test Results - The primary diagnostic tool for teacher understanding of the learning needs of students in reading and mathematics, are the results of the criterion referenced tests administered twice each year in the District of Columbia Public Schools. We would expect such test results to be included on the individualized learning plans, and would further anticipate that, in an interview situation, that teachers would report that they utilized such test results in the diagnosing of student needs.
- Clear Lesson Objectives - As suggested in the list of criteria mentioned above, students tend to achieve more when they understand goals of a particular unit or lesson. RENP training does stress the creation of lesson plans with clear objectives. Thus, we would expect to find that teachers have on file a series lesson plans with explicit objectives for lessons and/or units, and would further anticipate that the objectives of such lessons are clear to the students.
- Utilization of Reading Centers and/or Math Labs - As described in an earlier section of this report, reading centers and math labs are specially designated areas within each RENP school which are stocked with materials germane to the learning of particular reading and/or mathematics skills. We would expect to find that RENP teachers regularly send certain students to the reading centers and/or math labs to work, with aides, on the improvement of specific skill deficiencies which have been diagnosed by teachers.

PARENT/COMMUNITY INVOLVEMENT - What are the Criteria for Judging Its Effectiveness?

It has been a recurring theme of this report that RENP is a service delivery concept, intended to be individualized to the needs of individual schools, teachers and students. Thus, the program has not articulated specific behavioral objectives which should be utilized for criteria for success within any specific component. In the case of student achievement and teacher inservice training prior research studies are extremely useful in establishing criteria by which program success may be judged. Unfortunately, such is not the case in the areas of parent/community involvement. While many studies speak of the need for such involvement and while some even go to great lengths to describe plans undertaken within a given school to increase such involvement, few studies report specific outcomes. Therefore, criteria by which to judge the success of the parent/community involvement component are extremely difficult to generate from any theoretical framework. Further, since RENP offers so many avenues for parents and other community residents to become involved within the program, it is not possible to aggregate data across all such avenues and report a specific index which would indicate whether or not the program had been successful in this area. For example, if 30% of all parents participated in local school board meetings, yet only 2% serve as volunteers in the classroom, does this indicate "success" or "failure"? Although whatever criteria are ultimately utilized to judge the success of this component of the program must be largely judgemental. The criteria which follow, while they offer no absolute standard of measurement, have been distilled from various RENP program documents describing the operation of the parent/community involvement component.

- Regarding the Anacostia Community School Board - As stated earlier, the ACSB functions as the major policy-setting body for RENP. Thus, it appears logical to ask whether or not this Board is comprised entirely of community residents and does it indeed set policies for

RENP. It is further reasonable to ask whether or not, and to what extent, local citizenry attend the public meetings of the ACSB to bring their concerns regarding the operation of the program in the region's schools before the Board.

- RENP policies as they are related to local schools should be generated by the local school boards. It thus seems reasonable to ask whether or not such boards hold regular meetings, whether they really do set policy for the program within their school, and finally what is the nature and extent of citizen participation in such meetings?
- Regarding Policy Committees - What little research does exist on the outcomes of parent/community involvement suggests that as regional and local school boards become effective they spawn small committees to deal with particular problem areas or policy concerns. It seems reasonable to ask whether or not such committees have been formed within the ACSB and the local boards, and to determine the extent of citizen participation within these committees.
- Improved Attitudes - Another frequent theme in the scant literature on parent/community involvement is that parents and citizens who do become involved within the schools exhibit improved attitudes regarding the schools. Further, it is purported that the parents and citizens tend to feel that the schools become more responsive to citizen concerns. It thus seems reasonable to ask whether, in the case of RENP, parents and other local citizens who have become involved with the project have undergone a positive attitude shift in relation to regional schools in general and to specific programs.
- Parents as Volunteers - As cited earlier in the description of RENP, parents are urged to volunteer to work with teachers in classrooms. It seems reasonable to determine whether in fact parents do tend to serve as volunteers, the extent of such participation and the nature of the activities.

- Interactions Among Community Organizers and Parents - One of the major functions of the job of community organizer is to act as an interface between the RENP program and parents, thus bringing parental concerns to the attention of local project administrators and informing parents regarding their children's progress in the program. Further, community organizers act as referral agents, putting parents and community members in contact with social agencies when the need arises. It seems reasonable to raise questions regarding the nature and extent of the contact between community organizers and parents.

This section has attempted to pose some criteria by which the success of RENP can be judged in terms of how it affects student achievement, teachers and parent/community involvement in the schools. It now remains to examine, in subsequent sections of this report, the extent to which each of these criteria was met.

SECTION C - RESULTS

CHAPTER VI What Happened to the Students?

CHAPTER VII What Happened to the Classroom?

CHAPTER VIII What Happened to the Parent/Community Involvement?

CHAPTER IX How Much Did It Cost?

CHAPTER VI

WHAT HAPPENED TO THE STUDENTS?

Students were given the Comprehensive Test of Basic Skills (CTBS) three times: in October, 1976 (Fall '76); in May, 1977 (Spring '77)* and in October, 1977 (Fall '77). The CTBS yields seven scores for each student: three in Reading and four in Mathematics. The Reading scores are Reading Total, Vocabulary and Comprehension; the Math scores are Math Total, Computations, Concepts and Applications. This chapter presents these CTBS test results.

The reader will find that as time passed the number of students decreased, i.e., at the time of pretest (Fall '76) the numbers were larger than for Fall'76/Spring '77 comparisons and the latter were larger than those for Fall '76/Spring'77/Fall '77 comparisons. This is a phenomenon experienced regularly in "real life" applied evaluations. Students change classrooms, leave the area, drop out of school, fail to complete the tests, etc., thus causing a reduced number who have complete data for evaluation. Each comparison, therefore, used the largest number of students possible. The actual sample size will be presented at the beginning of the three sections describing Fall 1976, Fall 1976/Spring 1977, and Fall 1976/Spring 1977/Fall 1977 results. Caution should be used in interpreting the results, especially Fall/Spring/Fall comparisons due to the severe attrition.

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* Due to circumstances beyond the control of the evaluation team, the 8th grade Non-RENP students were not tested in the Spring of 1977. Therefore, only Fall 1976 pretest and Fall 1977 posttest data will be presented for this group.

WHAT WERE THE STUDENTS LIKE AT THE BEGINNING OF THE SCHOOL YEAR, (FALL 1976)?

In recent years, students in Anacostia have been exposed to various Title I and Project Follow-Through programs in the early elementary grades (Kindergarten through 3rd grade). Thus many of the students in this study had experienced various forms and combinations of compensatory educational programs prior to this evaluation. This exposure was experienced by both RENP and Non-RENP students alike - and we assume, equally. As described earlier, the RENP students were taught by teachers enrolled in an inservice teacher training program. The classrooms had use of reading and math laboratory facilities and teacher aides were often present. The Non-RENP or Comparison group received the regular DCPS program, emphasizing instruction by level of achievement, a criterion-referenced based instructional program. Therefore, this evaluation is a comparison of two school programs where one (RENP) program is supplemental to the other (Non-RENP).

This section takes a look at the academic progress of the study classrooms and students within those classrooms in the Fall of 1976, the beginning of the evaluation. It compares the two study groups, RENP and Non-RENP with each other and with the composite achievement levels of other large cities (large city normative group).

Sample

The evaluation utilized a randomly selected group of approximately 10% of the classrooms in the 4th, 5th, 6th and 8th grades of Region One. They were selected so as to give an adequate representation of both RENP and Non-RENP classrooms. RENP classrooms were selected from RENP schools; Non-RENP classrooms from Non-RENP schools. The initial study sample (Fall 1976) is described in Table 1.

Table 1.

Numbers of Students at Time of Initial Testing (Fall, 1976)

	NUMBER OF RENP		NUMBER OF NON-RENP	
	Students	Classrooms	Students	Classrooms
4th Grade	112	5	131	5
5th Grade	147	6	69	3
6th Grade	118	5	163	7
8th Grade	267	9	143	6
Total Sample	644	25	506	21

CTBS Achievement Scores

Comparisons were made between RENP and Non-RENP Fall classroom mean (average) CTBS test scores as well as between RENP and Non-RENP student mean test scores. Table 2 presents the RENP and Non-RENP student and classroom mean Reading and Math Total test scores (Appendix A presents student and classroom means for Total and Part scores).

Table 2.

CTBS Mean Reading and Math Total Scores for RENP and Non-RENP Students and Classrooms in the Fall of 1976.

	STUDENT MEANS			CLASSROOM MEANS	
	RENP		NON-RENP	RENP	NON-RENP
READING					
Grade 4	35	*	39	37	39
Grade 5	29		29	29	29
Grade 6	41	*	37	40	37
Grade 8	33		35	33	34
MATH					
Grade 4	51	*	56	51	56
Grade 5	36		37	36	37
Grade 6	47		48	47	47
Grade 8	33		31	33	31

* Statistically significant differences in mean scores.

The comparisons revealed some pretest differences between RENP and Non-RENP groups; these differences varied depending on whether means for classrooms or students were used. Few significant differences were found in classroom Total Score means -- the means for two study groups in each grade were about the same (Appendix A presents the classroom means (not weighted for class size) and statistical tests). There were two differences in student Reading Total Score means: one in the 4th grade favoring Non-RENP, and one in the 6th grade favoring RENP. In Math Total Scores, the 4th grade Non-RENP students scored higher.

With part scores, only three out of the twenty-eight comparisons for classrooms yielded RENP/Non-RENP differences (See Table 3). Non-RENP classrooms scored higher on Math Applications in the 4th grade and on Reading Comprehension in the 8th grade. Only the 8th grade Math Application classroom mean favored RENP. Comparisons of student mean part scores again revealed some differences between RENP and Non-RENP groups, particularly in the 4th grade where Reading Comprehension as well as Math Applications and Computations scores were higher for Non-RENP than RENP. In the 5th grade the only difference was that Non-RENP scored higher in Comprehension; the other part scores were similar for RENP and Non-RENP. In the 6th grade, RENP students scored higher than Non-RENP in Reading Vocabulary. Two differences appeared for the 8th grade: Non-RENP was favored in Comprehension and RENP in Applications. Table 3 summarizes these initial or baseline differences between RENP and Non-RENP using classrooms and using students in the comparisons.

Comparisons of CTBS raw test scores for RENP and Non-RENP groups in the Fall of 1976 with raw test scores for large city students in the Fall of 1976 revealed a substantial achievement gap between the study groups (RENP and Non-RENP) and large city norms, i.e., these students were achieving at levels well below average (the 50th percentile) for large city sutdents. The mean CTBS Reading Total and Math Total achievement scores were substantially below the large city normative group. (Details in Appendix B.) Figures 1 and 2 are graphic representations of this gap.

TABLE 3.

SUMMARY OF RENP/NON-RENP DIFFERENCES IN CTBS FALL 1976 SCORES USING STUDENTS AND CLASSROOMS AS THE COMPARISON BASIS (R = DIFFERENCE IN FAVOR OF RENP: NR = DIFFERENCES IN FAVOR OF NON-RENP)

	Students	Classrooms
4th Grade		
Reading Total	NR	
Vocabulary		
Comprehension	NR	
Math Total	NR	
Computations	NR	
Concepts		
Applications	NR	NR
5th Grade		
Reading Total		
Vocabulary		
Comprehension	NR	
Math Total		
Computations		
Concepts		
Applications		
6th Grade		
Reading Total	R	
Vocabulary	R	
Comprehension		
Math Total		
Computations		
Concepts		
Applications		
8th Grade		
Reading Total		
Vocabulary		
Comprehension	NR	NR
Math Total		
Computations		
Concepts		
Applications	R	R

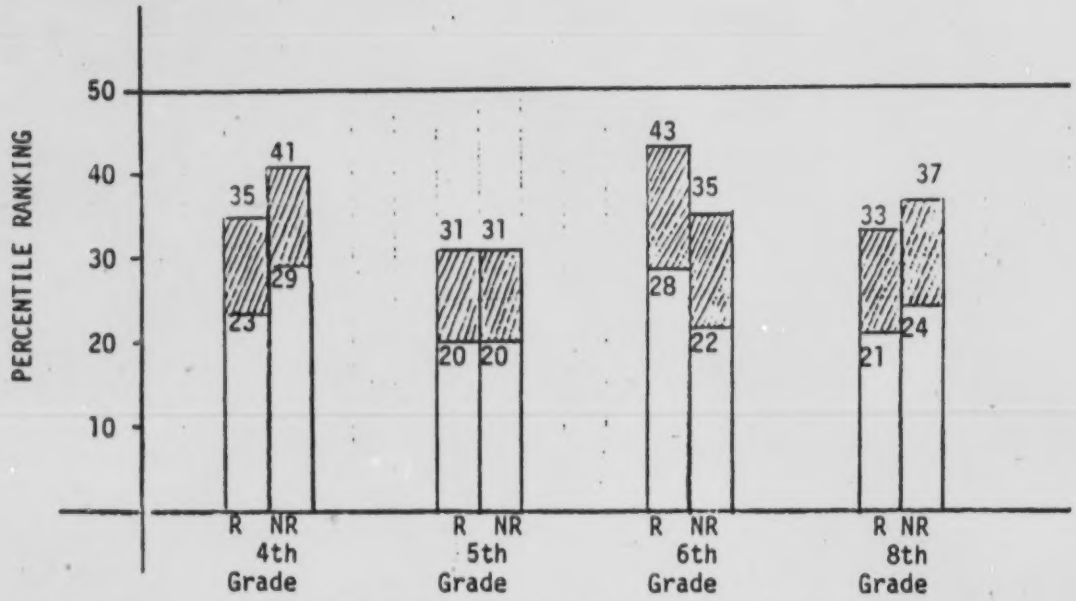

Figure 1 CTBS READING TOTAL Score Percentile Rankings by Grade for RENP (R) and NON-RENP (NR) Groups Compared with Large City and National Norms.

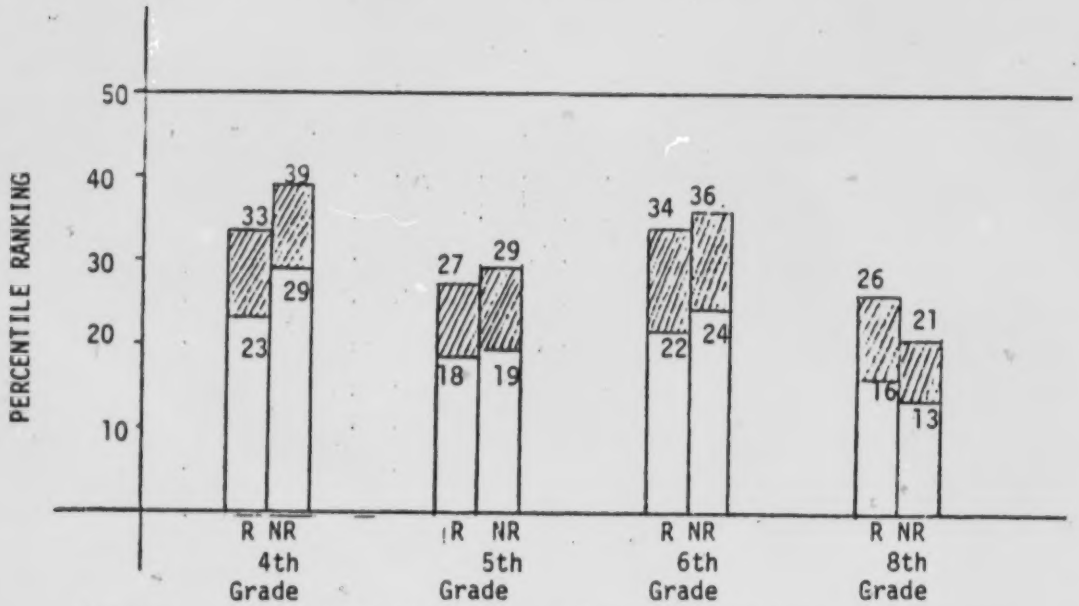

Figure 2 CTBS MATH TOTAL Score Percentile Rankings by Grade for RENP (R) and NON-RENP (NR) Groups Compared with Large City and National Norms.

Both RENP and Non-RENP groups were noticeably below the 50th percentile of large city norms for all four grades, ranging from the 31st to the 43rd percentile in Reading Total scores and from the 21st to the 39th percentile in Math Total scores. When compared with National norms, which are more stringent*, the groups fair even worse--they are far below the 50th percentile, ranging from the 20th to the 29th percentile in Reading Total scores and from the 13th to the 29th percentile in Math Total scores.

A similar achievement pattern existed for the five CTBS part scores (Reading Vocabulary, Comprehension; Math Computations, Concepts, Applications). This achievement gap between the study groups and large city norms was present in all four grades for each of the five part scores for both RENP and Non-RENP groups with the following three exceptions: 4th grade Non-RENP Reading Comprehension; 4th grade Non-RENP Math Concepts; and 6th grade RENP Reading Comprehension. (Detailed in Appendix B.)

This achievement gap between Anacostia Region One groups and other large cities is of particular concern to educators, parents and the community. It could mean that eventually many of these students will get so far behind that they drop out of school and do not receive a high school diploma, thus limiting their job alternatives and perhaps affecting their self-image. It might also mean that those who do complete high school will still be at a disadvantage in competing for jobs or college entrance with students from other areas.

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* Large city schools in general tend to perform more poorly than the National average on standardized Reading and Math achievement tests. Since DCPS is a "large city" school system, it is appropriate that all future comparisons will be made using large city norms.

Naturally, all students within the study groups were not achieving at the same level. Some students were achieving better than or equally well as the normative group (large cities), whereas others were achieving well below the norm. Therefore, for purposes of this study students were grouped into three achievement levels as follows:

- High Achievers were achieving at or above the 50th percentile for their grade level. These students were considered to be doing well academically

- Middle Achievers scored below the 50th percentile for their grade level but at or above the 50th percentile for the next lower grade. These students were considered able to "keep up" enough to handle reading materials for their grade (most texts are written about one-half grade level below the level where they are to be used)

- Low Achievers scored below the 50th percentile for the next lower grade and, in many cases, as low as two to three grade levels below. These students are thought to be "in academic trouble". They may have a hard time keeping up with their classmates and in many cases may not be able to handle their basic texts.

Figures 3 and 4 show the percentages of students at each achievement level in the RENP and Non-RENP groups for each grade based on Reading Total and Math Total scores. (Appendix C presents distributions of

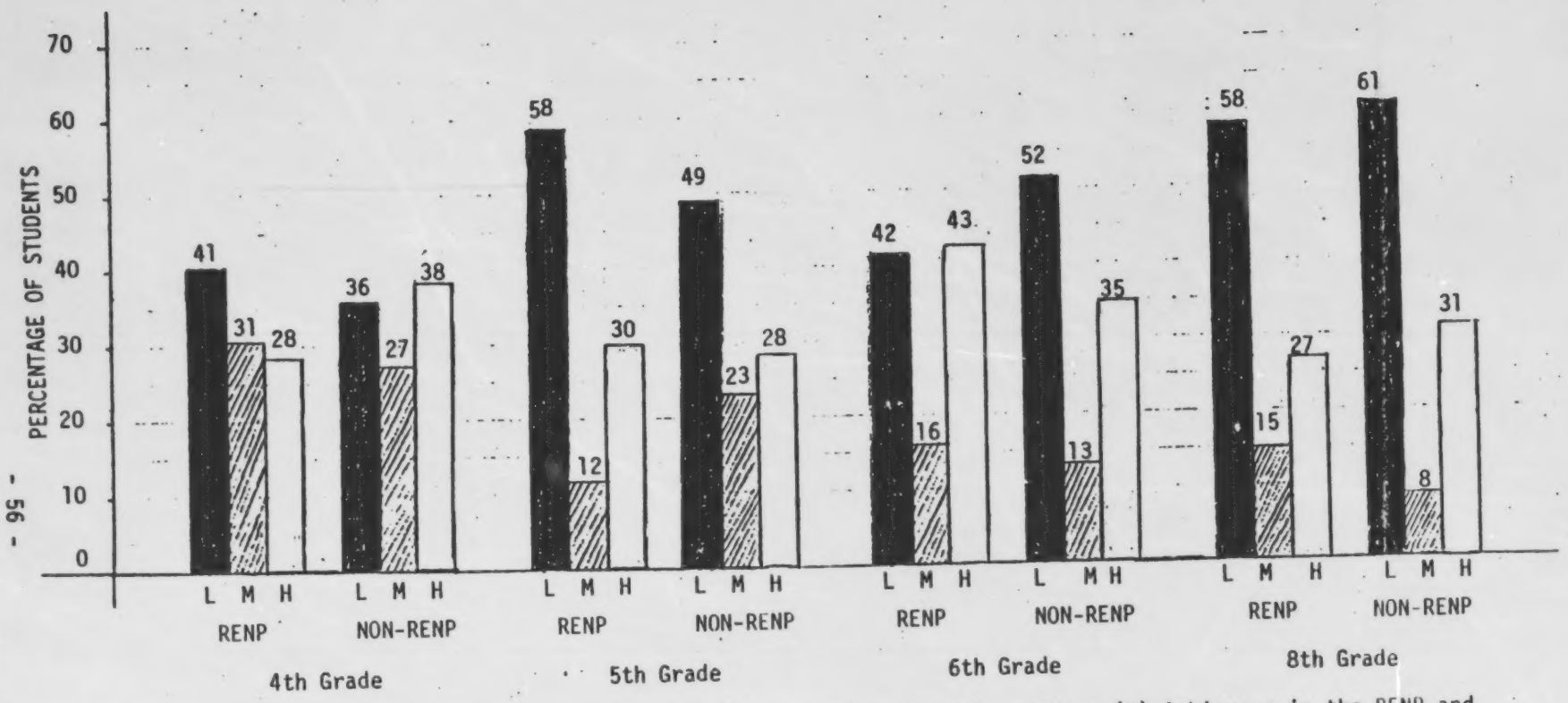

Figure 3. CTBS READING TOTAL SCORES: Percentages of Low (L), Middle (M) and High (H) Achievers in the RENP and Non-RENP Study Groups by Grade at Time of Pretest.

Legend:

Low Mid High
Achievers

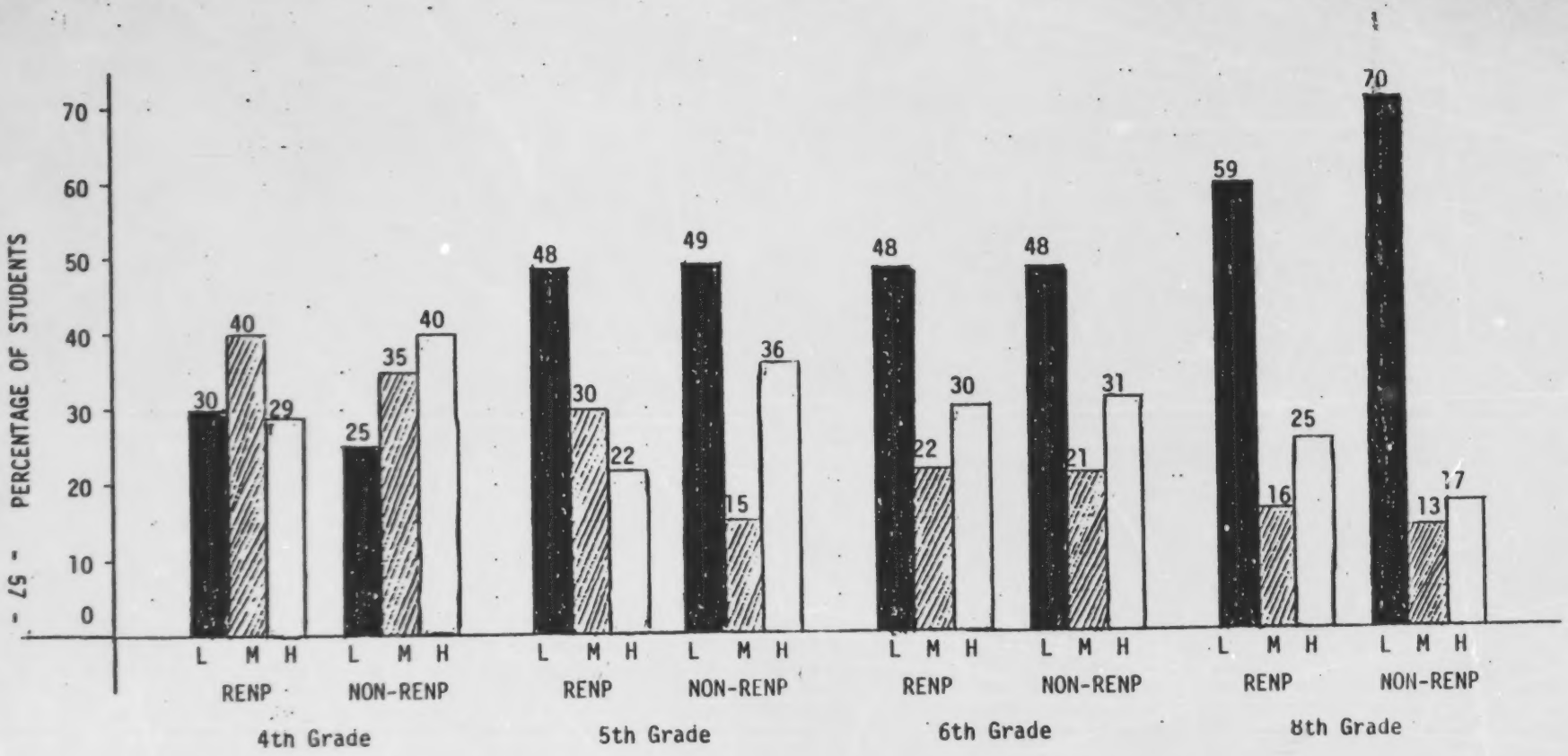

Figure 4. CTBS MATH TOTAL SCORES: Percentages of Low (L), Middle (M) and High (H) Achievers in the RENP and Non-RENP Study Groups by Grade at Time of Pretest.

Legend:

students in the three achievement levels based on Reading and Math Total and Part Scores.) In Reading, percentages of students in the low achievement group ranged from 36% to 61%, middle achievers from 8% to 31% and high achievers from 27% to 43%. In Math, percentages of low achievers ranged from 25% to 70%, middle achievers from 13% to 40% and high achievers from 17% to 40%. In general, the percentages of low achievers increased between grades 4 and 8, whereas the percentages of middle achievers seemed to decrease. The percentages of high achievers tended to remain about the same over all four grades. This picture, although comparing different students from different grades (instead of a follow-up study of the same students over time), suggests that many of the students who are in the borderline group may begin to lag further and further behind as time goes on.

WHAT WERE THE STUDENTS LIKE AT THE END OF THE SCHOOL YEAR (SPRING 1977)?

Students within the selected RENP and Non-RENP classrooms who were tested in the Fall of 1976 were tested again in the Spring of 1977 (May). This section describes the classrooms and students within those classrooms in terms of their academic progress from Fall to Spring.

Sample

As time passed within the evaluation, there were fewer students with complete test data - in this instance, those who were tested both in the Fall of 1976 and the Spring of 1977. Table 4 shows the numbers of students who were still in the study after one school year.

TABLE 4.

NUMBERS OF STUDENTS IN THE STUDY AFTER ONE SCHOOL YEAR WITH NUMBERS OF STUDENTS LOST FROM FALL TO SPRING IN PARENTHESES

	NUMBER OF RENP		NUMBER OF NON-RENP	
	Students	Classrooms	Students	Classrooms
4th Grade	88 (24)	5	103 (28)	5
5th Grade	123 (24)	6	41 (28)	3
6th Grade	101 (17)	5	142 (21)	7
8th Grade	188 (79)	9	(143)	0 (6)
Total	500 (144)	25	286 (220)	15 (6)

As the numbers in parentheses indicate, the number of students lost were about the same for the RENP and Non-RENP groups for Grades 4, 5 and 6. For the 8th grade, a large number of students were lost when the Non-RENP classrooms were not tested. This precluded any RENP versus Non-RENP comparisons for the 8th grade. The numbers in the table represent the maximum number of students who were used for any comparison since some individuals were still missing one or more part scores and total scores on the CTBS. (Appendix C presents the exact number of students by achievement level with both Fall and Spring scores for the Reading and Math Total and Part scores.) The number of classrooms remained the same (except for 8th grade Non-RENP).

Analysis Design

In examining program effects, the question arose as to whether the effects should be compared for individual students or for the classrooms as a whole. It was very difficult to assume that each student within the classroom was performing independently of other students within that classroom. In fact, many people would argue to the contrary - that is, the classroom setting, the classroom milieu and the actions and reactions of other students are continually impacting on each student, causing performance of individuals to be quite interrelated. Thus, two approaches were taken. First, the major RENP/Non-RENP comparisons based on classroom mean CTBS test scores were examined for Reading and Math. Secondly, descriptions of mean CTBS test scores based on students, ignoring the classroom as a unit, were examined.

Three different measurements or "metrics", two for classroom comparisons and one for student comparisons, were employed.

- Raw Test Scores. First, for classrooms, raw test scores from Fall and Spring will be described for Reading and Math. These raw test scores were used to compare RENP and Non-RENP classrooms in answer to the policy question, "Do RENP and Non-

RENP classrooms differ in standardized test results?". Each student within the classrooms sampled for the study was placed into one of the three pretest achievement levels based on his/her CTBS Fall raw test scores. The Spring raw test scores were then summarized for each classroom by averaging separately the scores for all low achievers, for all middle achievers and for all high achievers. This procedure was paramount to equating the number of low achievers, middle achievers and high achievers in each classroom.

• Growth Scores. A second metric, called the Growth Score, was used to compare the RENP and Non-RENP classrooms. This metric was designed to answer the policy question, "Do RENP and Non-RENP classrooms differ in narrowing the achievement gap between the study sample and large city norms?" The Growth Score is a modification of the Standardized Growth Expectation (SGE), a concept developed by Dr. Jack Stenner of the National Testing Service. To account for varying "rates of growth", Stenner suggests the SGE. He states:

> "The difference between the pretest percentile and the posttest percentile expressed in standard score form is referenced as the Standarized Growth Expectation (SGE)"

Based on Stenner's concept, the Growth Score was defined as the posttest (Spring) raw score minus the expected posttest raw score (Figure 5).

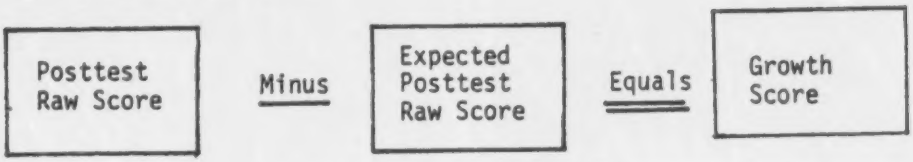

Figure 5. Definition of Growth Score

The expected posttest raw score was that raw score which a student must obtain on the posttest in order to maintain his/her pretest percentile rank relative to the large city norm group.* This Growth Score enabled evaluators to look directly at the question of closing the gap between large city averages and the study sample. It examined whether or not the RENP or Non-RENP classrooms were doing a better job of closing this gap. Again, as with raw scores, growth scores were developed on each student and the mean Growth Scores were obtained for students in each achievement level within each classroom.

• Percentile Score. The third metric was designed as a descriptive measure of student progress in terms of percentile points gained/lost from Fall to Spring relative to large city norms. This percentile score was derived by subtracting each student's Fall percentile ranking relative to large city Fall norms from his/her Spring percentile ranking relative to large city Spring norms. (Figure 6.)

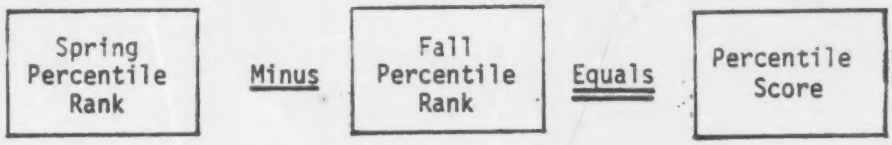

Figure 6. Definition of Percentile Score

If the achievement gap between the study groups and large city norms was being narrowed, you would expect to see the average student at a higher percentile ranking in the Spring than in the previous Fall. It followed, then, that the larger the average number of percentile points gained from Fall to Spring, the faster the gap was being closed and vice versa, the larger the number of percentile points lost from Fall to Spring, the faster the gap was being widened.

* As stated earlier, the use of large city norms was considered fair since large city school systems, in general, tend to perform more poorly than the National average on standardized tests.

CTBS mean classroom Fall raw scores were compared with mean classroom Spring raw scores for three achievement levels and three grades for the two programs. Similar analyses compared CTBS mean Fall/Spring Growth scores for the various groups. The methodology* employed made the following simultaneous comparisons:

- RENP versus Non-RENP classroom means
- Low achiever versus middle achiever versus high achiever classroom means
- 4th versus 5th versus 6th grade classroom means
- RENP versus Non-RENP classroom means by grade
- RENP versus Non-RENP classroom means by achievement level
- Three achievement level classroom means by grade
- RENP versus Non-RENP classroom means by Low, Middle and High achievement levels by grade

CTBS mean percentile scores were also compared for RENP and Non-RENP groups across the three elementary grades 4, 5 and 6 and for grade 8 separately. percentile scores were also compared for RENP and Non-RENP within the three achievement levels. In presenting the results of these various comparisons, all differences cited are statistically reliable in that they are expected to occur by chance only ten times in a hundred. All other differences were considered "no difference".

All analyses were conducted separately for Reading Total and Math Total scores and for the five Part scores. The findings for these comparisons are presented as mean scores for classrooms or students as

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* Technically, in the comparisons presented each classroom had <u>three</u> Spring posttest scores (one for each achievement level) and <u>one</u> Fall pretest score (the unweighted mean for the three achievement groups). (See Appendices E and F for a detailed description of the analysis of covariance designs and analyses of variance designs.)

appropriate. When mean raw test scores are presented, large city percentile rankings (L.C.%) and grade equivalents (GE) are presented. When classroom means are presented it is important to interpret the meaning of the percentile rankings and grade equivalents cautiously as "that percentile ranking or grade equivalent score which a student who had a score equal to the classroom mean would receive". This is important to keep in mind since the large city normative data exist only for students and not for classrooms.

Results of these comparisons are presented in the following five sections:

- CTBS Classroom Reading Raw Scores
- CTBS Classroom Math Raw Scores
- CTBS Classroom Reading Growth Scores
- CTBS Classroom Math Growth Scores
- CTBS Student Reading and Math Percentile Scores

CTBS Classroom Reading Raw Scores

Comparisons of CTBS Reading Total Raw Scores revealed no statistically reliable differences among the various RENP and Non-RENP groups. Table 5 shows Fall and Spring mean Reading Total scores with related large city percentile rankings (L.C.%) and grade equivalents (GE).

Both the RENP and Non-RENP groups in the 5th and 6th grades increased relative to large city norms from Spring to Fall. The 4th grade, however, remained at about the same percentile levels in the Spring as in the Fall. (Appendix E presents the means for all groups on Reading Total and Part Scores.)

Some statistically reliable differences between RENP and Non-RENP groups were found for Reading Part scores. In Vocabulary, the two programs had different effects for the three achievement groups: means

TABLE 5.

CTBS READING TOTAL. MEAN CLASSROOM RAW SCORES FOR FALL 1976 AND SPRING 1977 FOR RENP AND NON-RENP GROUPS BY GRADE.

	Number of Classrooms	Fall 1976			Spring 1977		
		Mean	L.C.%	GE	Mean	L.C.%	GE
4th Grade							
RENP	5	39	41	3.7	50	42	4.3
NON-RENP	5	40	43	3.8	49	40	4.2
TOTAL	10	40	43	3.8	49	40	4.2
5th Grade							
RENP	6	33	41	4.5	48	57	6.2
NON-RENP	3	33	41	4.5	44	48	5.6
TOTAL	9	33	41	4.5	47	55	6.1
6th Grade							
RENP	5	41	43	5.6	49	48	6.4
NON-RENP	7	40	41	5.5	49	48	6.4
TOTAL	12	41	43	5.6	49	48	6.4

for middle achievers were slightly higher in the Non-RENP classrooms; whereas means for low and high achievers were about the same.

In Reading Comprehension the two programs had different effects for the three elementary grades. RENP classrooms revealed very large program effects in the 5th grade compared to Non-RENP classrooms - the RENP classroom mean increased from Fall to Spring from the 41st to 68th percentile of large city norms, compared with Non-RENP classroom means which increased from the 41st to 42nd percentile. RENP also revealed a larger increase in the 4th grade than Non-RENP growing five percentile points compared with one percentile point for Non-RENP. In the 6th grade, program effects for RENP and Non-RENP were similar.

In summary, comparisons of RENP and Non-RENP Reading Raw Scores for Fall and Spring produced mixed but few program effects:

- No RENP/Non-RENP difference were found for Total Reading raw scores
- In Vocabulary Non-RENP was more effective with middle achievers
- In Comprehension, RENP was much more effective in the 4th grade and in particular the 5th grade.

CTBS Classroom Math Raw Scores

Fall/Spring comparisons of RENP and Non-RENP groups on Math Total scores revealed statistically reliable differences among RENP/Non-RENP groups for the different grades and achievement levels. Overall, Non-RENP groups did a little better in 4th grade, RENP and Non-RENP were about the same in the 5th grade and RENP did better in the 6th grade. Table 6 shows RENP and Non-RENP Total Math Scores and associated large city percentiles and grade equivalents by grades. (Appendix E presents means for all groups on Math total and part scores.)

These differences in RENP and Non-RENP Math Total raw scores by grade, however, must be interpreted in light of further statistically reliable differences between RENP and Non-RENP groups for the three achievement levels with these grades. (Appendix E presents means for these achievement level groups.)

TABLE 6.

CTBS MATH TOTAL. MEAN CLASSROOM RAW SCORES FOR FALL 1976 AND SPRING 1977 FOR RENP AND NON-RENP GROUPS BY GRADE.

	Number of Classrooms	Fall 1976			Spring 1977		
		Mean	L.C.%	GE	Mean	L.C.%	GE
4th Grade							
RENP	5	52	35	3.5	61	43	4.3
NON-RENP	5	55	38	3.6	66	49	4.6
TOTAL	10	53	36	3.5	63	45	4.4
5th Grade							
RENP	6	44	45	4.9	56	57	5.1
NON-RENP	3	40	36	4.4	51	48	5.6
TOTAL	9	42	41	4.7	55	55	6.0
6th Grade							
RENP	5	52	42	5.6	66	58	7.2
NON-RENP	7	51	41	5.6	62	52	6.9
TOTAL	12	51	41	5.6	63	53	6.9

In the 4th grade Non-RENP is more effective for low achievers; for middle and high achievers RENP and Non-RENP are about the same. For grade 5, while the RENP and Non-RENP groups show similar patterns for middle and low achievers, the Non-RENP high achievers grow more. For the 6th grade, RENP low achievers progress slightly more than Non-RENP; and RENP and Non-RENP middle and high achievers are about the same.

Math Part scores with the exception of Applications revealed some program effects also. In Math Concepts, the program effects are almost identical for high and low achievers; for middle achievers the RENP group improved more. In Math Computations, overall RENP/Non-RENP differences in Fall and Spring raw scores varied by achievement level. RENP groups gained slightly more for low and high achievers; Non-RENP and RENP groups grew about the same for middle achievers. These differences again must be interpreted in light of further statistically reliable differences by grade. As with Math Total scores, the statistically reliable differences in Math Compuations occurred for the various RENP and Non-RENP groups in different grades and different achievment levels. As with Math Total Scores, in the 4th grade, RENP/Non-RENP differences are minimal. For grade 5, Non-RENP middle achievers have higher scores, whereas RENP low and high achievers have higher scores. For the 6th grade, RENP groups have slightly higher scores in the low and middle achievement levels with the largest difference in middle achievers.

In summary, there are some differential program effects on Math Raw Scores for RENP and Non-RENP. The differences in CTBS Math Scores are often a function of grade as well as of achievement level.

- In Math Total, 4th grade, Non-RENP was more effective for low achievers; in 5th grade Non-RENP high achievers; and in the 6th grade RENP low achievers.

- In Computations, 4th grade there are no RENP/Non-RENP differences; in the 5th grade Non-RENP works best for middle achievers, whereas RENP works best for low and high achievers. In the 6th grade, RENP low and middle achievers do slightly better.
- In Concepts, RENP worked better for middle achievers.
- In Application, no RENP/Non-RENP differences surfaced.

CTBS Classroom Reading Growth Scores

The second series of classroom results to be presented were directed at answering the policy question, "Do RENP and Non-RENP classrooms differ in narrowing the achievement gap between themselves and large city norms"? The growth score, described earlier in the analysis section of this chapter, is the actual Spring raw score minus the expected Spring raw score equivalent to the Fall percentile level. These growth scores were compared simultaneously for all RENP/Non-RENP groups within the three grades and achievement levels.*

Growth Scores on Total Reading differed for the three grades with the largest growth scores in the 5th grade, the next largest in the 6th and the smallest in the 4th. There were, however, no statistically reliable differences related to the RENP and Non-RENP programs. Table 7 shows the Mean Growth Scores by grade.

TABLE 7.

READING TOTAL. CLASSROOM MEAN GROWTH SCORES BY GRADE

	RENP		NON-RENP	
	N	Mean	N	Mean
4th Grade	5	2.9	5	2.3
5th Grade	6	9.0	3	5.9
6th Grade	5	4.7	7	4.8

* A detailed description of the split-plot analysis of variance design is presented in Appendix F.

Reading Part growth scores almost paralled those for raw test scores. In Vocabulary, RENP classrooms grew slightly more for low achievers; Non-RENP grew more for middle achievers; and high achievers grew about the same. Reading Comprehension growth patterns were different by grade. In the 4th grade RENP growth scores were higher than Non-RENP's. This same direction of means held for the 5th grade where the RENP growth scores were much higher than the Non-RENP. The 6th grade Non-RENP classroom growth scores were about the same as RENP. (Appendix F presents mean growth scores.)

In summary, differences between RENP and Non-RENP classrooms in closing the achievement gap were as follows:

- No differences in Total Reading Growth Scores
- In Vocabulary RENP low achievers did slightly better, and Non-RENP middle achievers did better
- In Comprehension RENP worked better than Non-RENP in the 4th and 5th, but not in the 6th grade.

CTBS Classroom Math Growth Scores

As with comparisons of Math raw scores for RENP and Non-RENP, Math growth score results were complicated. Growth scores in Total Math revealed RENP/Non-RENP program differences according to both grade and achievement level. (Appendix F presents mean growth scores for Math Total and Part Scores.) In the 4th grade the Non-RENP low achievers had larger growth scores than RENP low achievers. For middle achievers RENP groups had slightly higher scores and for high achievers the RENP/Non-RENP groups are about the same. In the 5th grade, RENP low achievers and particularly the RENP high achievers had higher growth scores. On the contrary, Non-RENP middle achievers grew slightly more. In the 6th grade RENP classrooms consistently had higher scores with the largest differences for low achievers and the smallest for high achievers.

Math Part Growth Scores show mixed results. As with raw scores no reliable differences between RENP and Non-RENP were found in Applications. In Math Concepts the RENP groups had higher growth scores for all three achievement groups with the largest differences for middle achievers. Finally, in Math Computations the differences between RENP and Non-RENP groups again varied both by grade and by achievement level. In the 4th grade, Non-RENP low and middle achievers had higher growth scores than RENP. In the 5th grade, RENP low and high achievers did better while Non-RENP middle achievers did better. In the 6th grade, RENP groups consistently did better with the most impressive differences for low and middle achievers.

To summarize findings, more RENP/Non-RENP differences emerged in Math Growth scores than in Reading. For Total Math Growth Scores, RENP was closing the gap faster for the following:

- 5th grade high achievers
- 6th grade low, middle and high achievers

Non-RENP was closing the gap faster for:

- 4th grade low achievers
- 5th grade middle achievers

Math Part growth scores also varied for RENP and Non-RENP. Growth scores for Math Applications showed no RENP/Non-RENP differences in closing the gap. Math Concepts revealed consistently that RENP was closing the gap faster with higher gains, particularly for middle achievers. Math Computations revealed RENP closed the gap best for:

- 5th grade low and high achievers
- 6th grade low, middle and high achievers

Non-RENP closed the gap best for:

- 4th grade low, middle and high achievers
- 5th grade middle achievers

RENP and Non-RENP Program Effects in Terms of Educational Significance

As stated previously, program effects can be viewed in terms of educational as well as statistical significance. If we assumed a gain of at least five percentile points relative to large city norms was an educationally meaningful growth from Fall to Spring, then RENP and Non-RENP groups in the late elementary grades 4, 5 and 6 did well. Tables 8 and 9 summarize classroom changes from Fall to Spring in terms of raw score points, percentile points and grade point equivalent differences.

The 4th grade RENP groups grew more than five percentile points in Reading Total and Comprehension and in Math Total, Computations and Concepts; only in Reading Vocabulary and Math Applications did the group fail to grow. The RENP 5th grade grew more than five percentile points in all seven areas. In the 6th grade RENP groups grew more than five percentile points in all but Reading Vocabulary. The RENP 8th graders only grew in Math Concepts with all other scores having losses in percentile points.

The Non-RENP 4th grade grew more than five percentile points in Math Total, Computation and Concepts. The 5th grade grew more than five percentile points in Reading Total and Vocabulary; and in Math Total, Computations and Concepts. The 6th grade grew more than five percentile points in Reading Total and Comprehension; and Math Total, Computation and Application.

Comparisons can be made between the RENP and Non-RENP groups on the same basis (a growth difference of at least five percentile points). The following differences were found (See Tables 8 and 9):

TABLE 8 Comparison of Fall 1976 Pretest and Spring 1977 Posttest CTBS Reading Scores for RENP and NON-RENP by Grades 4, 5, 6 and 8.*

Estimate of Gains/Losses from Fall 1976 Pretest to Spring 1977 Posttest	Total		Vocabulary		Comprehension	
	RENP	NON-RENP	RENP	NON-RENP	RENP	NON-RENP
Grade 4						
Raw Score Gained/Lost	11	9	6	6	5	3
Percentile Points Gained/Lost	1%	3%	-3%	-3%	5%	1%
Grade Equivalent Growth per 7 Months in RENP	.6	.4	.3	.3	.9	.6
Grade 5						
Raw Score Gained/Lost	15	11	9	12	8	1
Percentile Points Gained/Lost	16%	7%	7%	21%	27%	1%
Grade Equivalen Growth per 7 months in RENP	1.7	1.1	.9	1.2	3.4	.8
Grade 6						
Raw Score Gained/Lost	15	11	6	6	1	2
Percentile Points Gained/Lost	16%	7%	-1%	-1%	7%	10%
Grade Equivalent Growth per 7 Months in RENP	1.8	2.3	1.3	1.7	1.8	23
Grade 8						
Raw Score Gained/Lost			3	-1		
Percentile Points Gained/Lost			-8%		-2%	
Grade Equivalent Growth per 7 Months in RENP			-.1		.4	

*This table is presented to aid in interpretation of results. The reader is reminded that percentile points gained/lost and years growth were determined by comparing student norms with classroom means. Thus the data must be interpreted as the percentile points gained/lost and years of growth which a student whose mean pretest and posttest scores were equivalent to the classroom means would obtain.

TABLE 9

Comparison of Fall 1976 Pretest and Spring 1977 Posttest CTBS Math Scores for RENP and NON-RENP by Grades 4, 5, 6 and 8*

Estimate of Gains/Losses from Fall 1976 Pretest to Spring 1977 Posttest	Total		Computations		Concepts		Applications	
	RENP	NON-RENP	RENP	NON-RENP	RENP	NON-RENP	RENP	NON-RENP
Grade 4								
Raw Score Gained/Lost	9	11	5	7	2	1	2	2
Percentile Points Gained/Lost	8%	11%	9%	14%	14%	8%	0%	1%
Grade Equivalent Growth per 7 Months in RENP	.8	1.0	.9	1.1	1.4	.9	.5	.6
Grade 5								
Raw Score Gained/Lost	12	11	8	5	2	3	3	2
Percentile Points Gained/Lost	12%	12%	17%	9%	9%	16%	9%	3%
Grade Equivalent Growth per 7 Months in RENP	1.2	1.2	1.3	.8	.8	1.7	1.3	.8
Grade 6								
Raw Score Gained/Lost	14	11	7	5	4	1	4	3
Percentile Points Gained/Lost	16%	11%	13%	8%	24%	2	13%	8%
Grade Equivalent Growth per 7 Months in RENP	1.6	1.3	1.3	1.0	1.6	.8	1.8	1.4
Grade 8								
Raw Score Gained/Lost			-1		3		1	
Percentile Points Gained/Lost			-4%		13%		0%	
Grade Equivalent Growth per 7 Months in RENP			.1		1.7		.7	

*This table is presented to aid in interpretation of results. The reader is reminded that percentile points gained/lost and years growth were determined by comparing student norms with classroom means. Thus the data must be interpreted as the percentile points gained/lost and years of growth which a student whose mean pretest and posttest scores were equivalent to the classroom means would obtain.

- Greater growth for RENP (at least five percentile points difference in growth over Non-RENP) in:

  * 4th grade Math Concepts
  * 5th grade Reading Total
  * 5th grade Reading Comprehension
  * 5th grade Math Computations
  * 5th grade Math Applications
  * 6th grade Math Total
  * 6th grade Math Computations
  * 6th grade Math Concepts
  * 6th grade Math Applications

- Greater growth for Non-RENP (at least five percentile points difference in growth over RENP) in:

  * 4th grade Math Computations
  * 5th grade Reading Vocabulary
  * 5th grade Math Concepts

Description of RENP and Non-RENP Students in Reading and Math from Fall to Spring

Comparisons of RENP and Non-RENP students, ignoring the classroom as a unit, were made based on the number of percentile points gained from Fall to Spring. Each student's Fall percentile ranking relative to large city Fall norms was subtracted from his/her Spring percentile ranking relative to large city Spring norms, resulting in the percentile points gained or lost.

For descriptive purposes, students were categorized into three groups based on the number of percentile points which they gained or lost from Fall to Spring:

- Loss - those students who lost greater than or equal to five percentile points from Fall to Spring.
- No Loss/Gain - those students who lost or gained less than or equal to four percentile points from Fall to Spring.
- Gain - those students who gained greater than or equal to five percentile points from Fall to Spring.

The three categories were developed as an attempt to relate meaningful growth. The five percentile points set as limits for the three categories were selected to be roughly equivalent to one-half a year's growth. That is, a student who lost five or more percentile points from Fall to Spring had lost roughly the equivalent of one-half a year. This means that such students may have lagged behind enough to cause concern as far as relating to his/her basic text. It might also mean that the student will begin to have more difficulty keeping up with others in the classroom. On the other hand, a student who gained five or more percentile points may be in a better position to use the basic text and thus better able to "keep pace" with peers. It is important to emphasize that this categorization has slightly different meanings for those at the 80th percentile than for those at the 50th percentile. Nonetheless, it seems to be a useful way of dealing with the concept of meaningful growth for students in the study.

Comparisons of percentile points gained/lost for the RENP and Non-RENP study groups were made for all students and separately for the

low achievers, high achievers and middle achievers. In both cases, students within the late elementary grades 4, 5 and 6 were combined and students in 8th grade were kept separate.

Table 10 shows the numbers and percentages of all students in RENP and Non-RENP groups who gained percentile points, stayed the same, and who lost percentile points from Fall 1976 to Spring 1977 based on Reading Total and Math Total Scores.

TABLE 10.

NUMBERS AND PERCENTAGES OF RENP AND NON-RENP STUDENTS WHO LOST, STAYED THE SAME OR GAINED PERCENTILE POINTS FROM FALL 1976 TO SPRING 1977.

	Grades 4, 5 and 6 Combined				Grade 8	
	RENP		NON-RENP		RENP ONLY	
	Number	Percent	Number	Percent	Number	Percent
READING TOTAL SCORE						
Loss	56	18%	42	15%	51	33%
No Loss/Gain	89	29%	121	43%	60	38%
Gain	165	53%	118	42%	45	24%
	310	100%	281	100%	156	100%
MATH TOTAL SCORE						
Loss	22	8%	21	8%	25	21%
No Loss/Gain	55	20%	74	28%	48	39%
Gain	198	72%	172	64%	49	40%
	275	100%	267	100%	122	100%

• Gains/Losses in Reading (All Students) - In general, in CTBS Reading scores a larger percentage of those in the RENP group in grades 4, 5 and 6 gained than in the Non-RENP group. This was true for the Reading Total as well as the Reading Part Scores of Vocabulary and Comprehension. For Reading Total scores, 53% of the RENP students gained compared with 42% of the Non-RENP students; for Vocabulary 54% of the RENP students gained compared with 44% of Non-RENP; and for Comprehension, 61% of RENP and 52% of Non-RENP gained. Losses in Reading were about the same for RENP and Non-RENP revealing 18% of the RENP students losing compared with 15% of the Non-RENP on Reading Total scores; 28% of both RENP and Non-RENP in Vocabulary; and 21% of RENP and 26% of Non-RENP students losing in Comprehension. (Appendix G).

The 8th grade RENP group showed 33% of the students losing and only 24% of the students gaining from Fall to Spring in Reading Total Scores. This pictures greater losses and fewer gains than were found in the elementary grades. The pattern holds true for the Reading part scores of Vocabulary and Comprehension as well. In Vocabulary, 40% of the 8th graders lost and 32% gained; in Comprehension, 38% of the RENP students lost and 44% gained. (Appendix G).

• Gains/Losses in Math (All Students) - In general, losses and gains in percentile points in Math were similar for RENP and Non-RENP 4th, 5th and 6th grades. Math Total scores revealed an identical 8% of both RENP and Non-RENP students in the loss category and 72% of RENP and 64% of Non-RENP students in the gain category. Computations and Applications

were similar showing losses of about 15% and 23% respectively for both groups and gains of 70% for RENP and 66% for Non-RENP in Computations compared with 63% for RENP and 61% for Non-RENP in Applications. Only for the Concepts score were there substantial differences between RENP and Non-RENP, showing a higher percentage of RENP students gaining (64% versus 50%) and a lower percentage of RENP students losing (20% versus 31%). (Appendix G).

Except for Math Concepts scores, where gains and losses were about the same for the 8th grade and for the elementary school grades, 8th graders tended to have higher percentages of losses and lower percentages of gains than the elementary school grades (Appendix G).

Comparisons between RENP and Non-RENP group low achievers, middle achievers and high achievers are presented next. Table 11 shows the numbers and percentages of students in each of the three achievement groups who gained, stayed the same or lost percentile points from Fall 1976 to Spring 1977 for the two study groups.

- Gains/Losses in Reading (for Low, Middle and High Achievers) - For the Reading Total scores, the late elementary grade low achievers had similar losses and gains for RENP and Non-RENP groups - with identical 10% losses and gains for 64% of the RENP students compared with 56% of the Non-RENP students. For middle and high achievers a different pattern emerged. The RENP students were more likely to gain (middle achievers of RENP 52% compared with 43% of Non-RENP; high achievers of RENP 37% compared with 23% of Non-RENP), but they also were more likely to lose percentile points (middle achievers 28% of RENP compared with 19% of Non-RENP; high achievers 24% of RENP, 19% of Non-RENP). (See Appendix G.)

TABLE 11

Numbers and Percentages of Low, Middle and High Achievers in RENP and NON-RENP Groups Who Lost, Stayed the Same or Gained Percentile Points from Fall 1976 to Spring 1977.

	Grades 4, 5, & 6 Combined				Grade 8	
	RENP		NON-RENP		RENP Only	
	Number	Percent	Number	Percent	Number	Percent
ADING TOTAL						
Low Achievers						
Loss	16	10%	13	10%	23	25%
No Gain/Loss	39	26%	44	34%	35	29%
Gain	18	64%	72	56%	33	36%
	153	100%	129	100%	91	100%
Middle Achievers						
Loss	16	28%	10	19%	11	48%
No Gain/Loss	12	21%	21	39%	7	30%
Gain	30	52%	23	43%	5	22%
	58	100%	54	100%	23	100%
High Achievers						
Loss	24	24%	19	19%	17	40%
No Gain/Loss	38	38%	56	57%	18	43%
Gain	37	37%	23	23%	7	17%
	99	100%	98	100%	42	100%
TH TOTAL						
Low Achievers						
Loss	12	10%	7	7%	9	13%
No Gain/Loss	16	14%	29	27%	24	40%
Gain	90	76%	71	66%	34	47%
	118	100%	107	100%	72	100%
Middle Achievers						
Loss	7	8%	4	6%	3	16%
No Gain/Loss	15	18%	14	21%	9	47%
Gain	62	74%	49	73%	7	37%
	84	100%	67	100%	19	100%
High Achievers						
Loss	3	4%	10	11%	13	42%
No Gain/Loss	24	33%	31	33%	10	32%
Gain	46	63%	52	56%	8	26%
	73	100%	93	100%	31	100%

Reading Part scores revealed a slightly different pattern. In Vocabulary for both low and high achievers the RENP groups were more likely to gain while percentages of losers for RENP and Non-RENP groups were about the same. Middle achievers in both groups gained and lost about the same. In Comprehension, no large differences appeared for the low, middle and high achievers.

As in Reading, the 8th grade RENP groups had higher percentages who lost than the early elementary school grades for the low, middle and high achievers. Losses for low achievers were 10% for the elementary compared with 25% for the 8th grade; for middle achievers, 28% compared with 48%; and for high achievers, 24% compared with 40%.

• Gains/Losses in Math (for Low, Middle and High Achievers) - For the Math Total scores, the low achievers in late elementary school grades showed RENP groups with more students gaining, 76% for RENP compared with 66% for Non-RENP; percentages of losses were about the same. The RENP and Non-RENP middle and high achievers groups gained and lost about the same.

Math Part scores showed a few RENP/Non-RENP differences in gains and losses. In Math Computations, the middle achievers in Non-RENP experienced a larger percentage of gains and a smaller percentage of losses than did RENP; the low and high achiever groups had similar losses and gains for the two study groups. In Math Concepts, for low and middle achievers, more RENP students gained and fewer lost than for Non-RENP while high achievers faired equally as well under the two programs. There were no RENP/Non-RENP Application score differences in percentage of gains and losses.

The 8th grade RENP low achievers had about the same percentage of losses as the elementary grades. The low achievers

gains, however, were substantially lower with 47% of the 8th graders and 76% of the elementary students gaining. For middle achievers, losses doubled and gains were cut in half from elementary to eighth grade. For high achievers, gains were cut a third (from 63% to 26%) and losses were increased tenfold (4% for elementary, 40% for eighth graders). Again and again signs of lagging behind appear. It is important to note, however, that eighth graders really have "less room to grow" than the elementary school students so we should not expect them to grow quite as rapidly.

As stated earlier, students were grouped by achievement level at time of the pretest (Fall 1976). The same students were given a second achievement level based on their Spring 1977 test scores. Thus, it was possible to examine the "changes" in achievement level for the RENP and Non-RENP groups from Fall to Spring. This following section will present the results of those comparisons.

- Changes in Reading Achievement Levels - Figure 7 describes the composition of the Reading Total score Spring achievement levels as a function of Fall achievement levels. Most of those who were reading at the low achiever level in the Spring were still reading at that level in the Fall (88% of Non-RENP and 86% of RENP students who started the Fall as low achievers ended as low achievers in the Spring). Very few high achievers dropped to the low achievers group (only 1% of RENP and 3% of Non-RENP groups). Most additions to the low achiever group came from the pretest middle achievers. These results show no difference between RENP and Non-RENP groups. These results also confirmed the hypothesis that students don't drop far behind in the course of one year. Rather, this process is seemingly more gradual where students lag further and further behind each year. No large differences between RENP and Non-RENP groups were found as far as the composition of the Spring

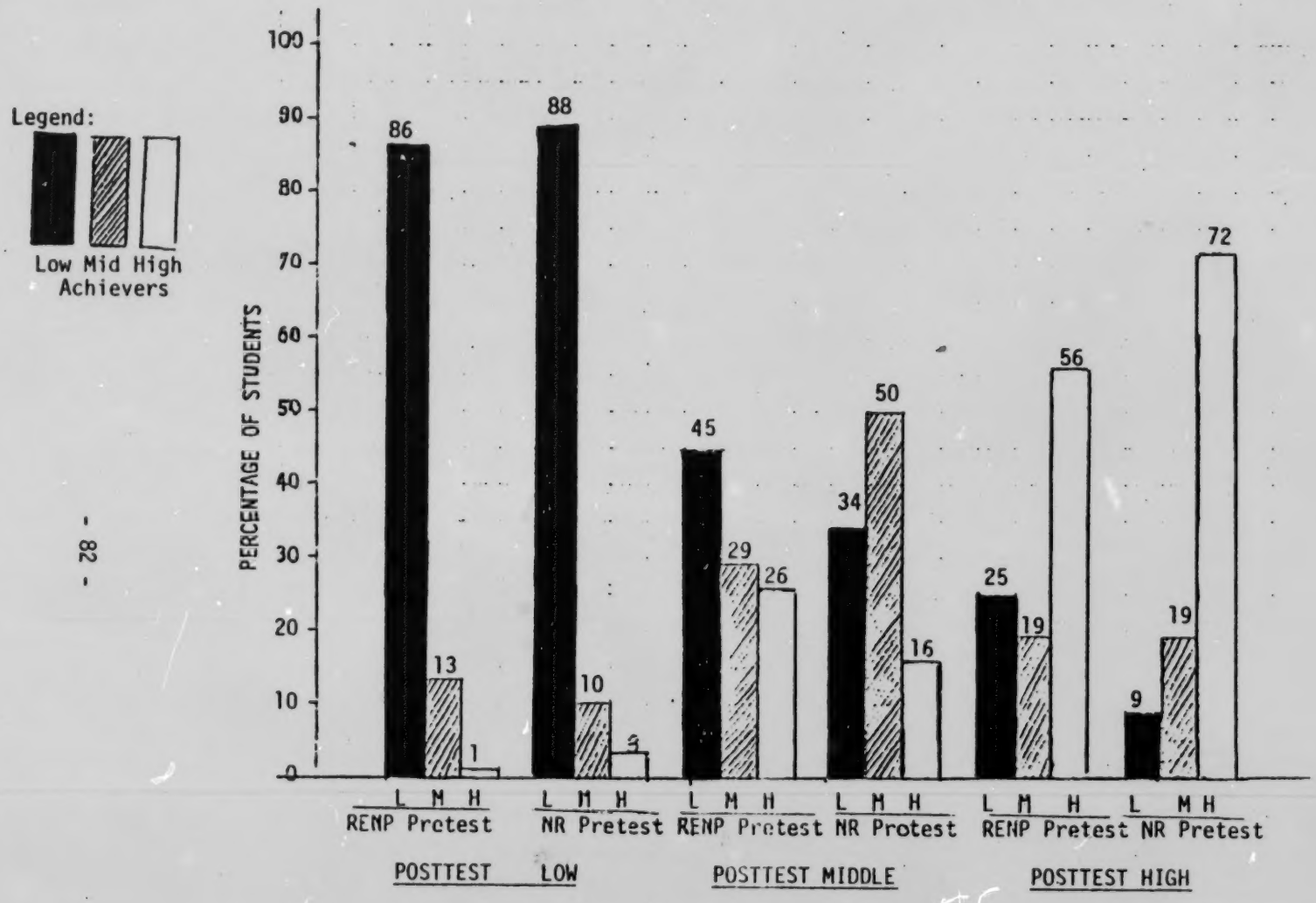


FIGURE 7. Percent of Students from Low, Middle and High Pretest Achievement Levels in Each of the Spring Posttest Achievement Levels Based on Total Reading Scores. (Grades 4, 5 and 6).

middle achievement group. The students came from all three Fall achievement levels. For the Spring high achievement group there were large differences between RENP and Non-RENP. A higher percentage of RENP low achievers moved into the high achiever group than did Non-RENP low achievers.

A look at Vocabulary part scores showed RENP/Non-RENP differences in the make-up of the Spring low achiever group. A larger percentage of Non-RENP low achievers stayed there than did RENP low achievers. For Comprehension scores only for high achievers were there large differences between RENP and Non-RENP, with a higher percentage of Non-RENP students remaining in the high group than in the RENP group.

- Changes in Math Achievement Levels - Figure 8 shows the composition of the Spring achievement levels in Math Total scores as a function of Fall levels. The only post-test level with large RENP/Non-RENP differences was the high achievement group. For this group, a larger percentage of the Non-RENP students remained in the high group and a larger percentage of the RENP low achievers moved into the high group.

Math part scores revealed a similar pattern with only high achievement Spring level differences for RENP and Non-RENP. Again, the picture is one with more of the Non-RENP high achievers remaining in the high category and more of the RENP low achievers moving into the high category. The only exception is for the low achievers in Math Computations. More Non-RENP and fewer RENP Fall low achievers remained in the low category with more RENP than Non-RENP high and middle achievers moving into the low category.

Summary of Student Comparisons Between RENP and Non-RENP

In summary, the examination of student CTBS test scores from Fall 1976 to Spring 1977 revealed: (See Table 12)

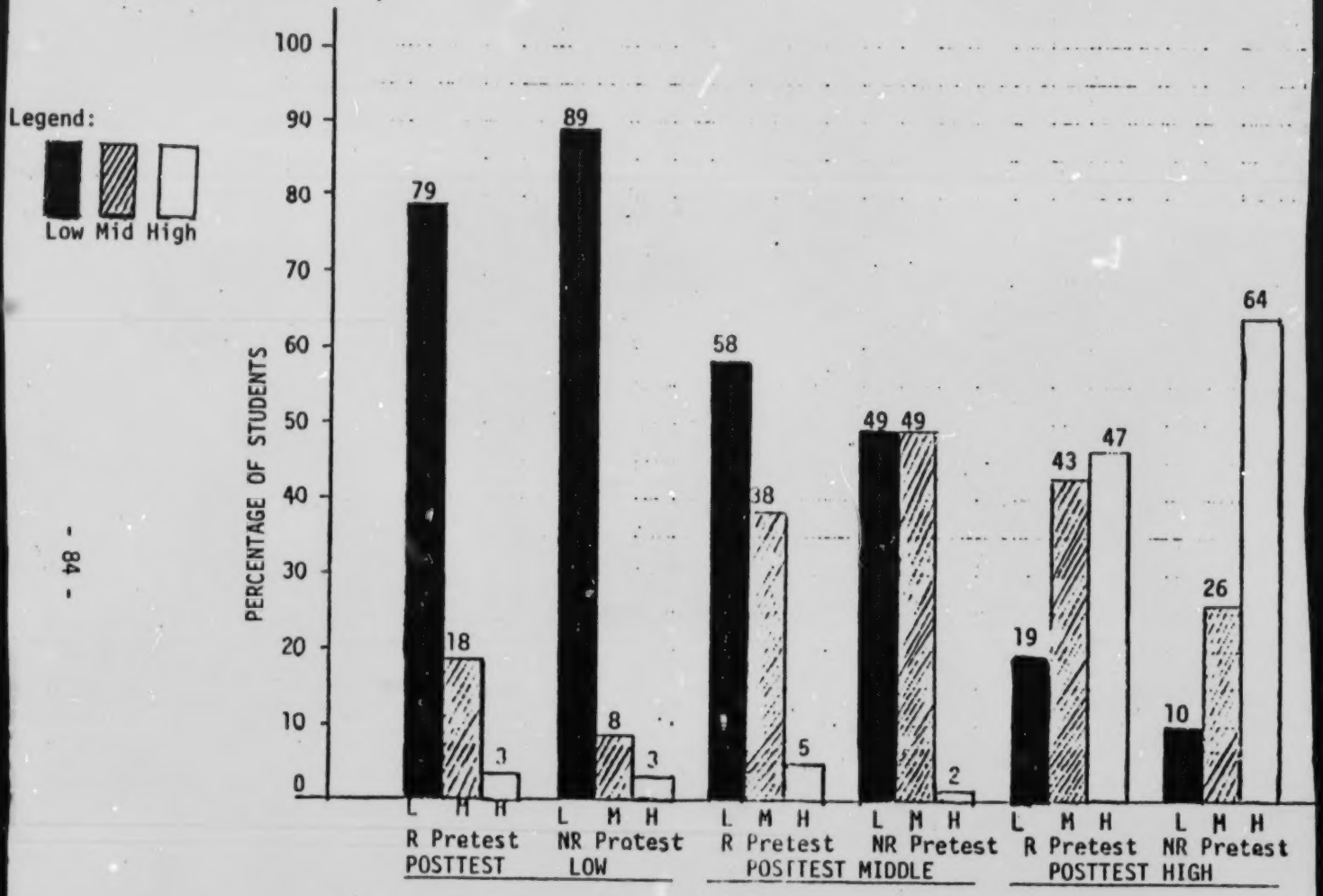


Figure 8. Percent of Students from Low, Middle and High Pretest Achievement Levels in Each of the Spring Posttest Achievement Levels Based on Total Math Scores. (Grades 4, 5 and 6.)

- In Reading, overall more student gains were made for RENP than for Non-RENP with losses about the same for the two study groups. Breaking these results down by student achievement levels changes the picture slightly:
  - * Low achievers are losing and gaining in about the same percentages except in Vocabulary where RENP students are more likely to gain.
  - * Middle achievers show mixed results with higher percentages of gainers for RENP and lower percentage of losers for Non-RENP on Total scores but not for part scores.
  - * High achievers show RENP with higher percentages of gains and Non-RENP with lower percentages of losses in Total scores and higher gains in Vocabulary.
- In Math, overall percentages of students gaining and losing were about the same for RENP and Non-RENP with differences only in Math Concepts where more RENP students gained and less students lost than Non-RENP. These results must also be clarified by examining students by achievement levels:
  - * Low achievers show higher percentages of students gaining on Total scores for RENP but no differences in part scores.
  - * Middle achievers had mixed results with RENP having higher gains in Computations, Non-RENP in Concepts and no differences in Total Scores and Applications.
  - * High achievers show no differences in RENP and Non-RENP student gains and losses.

- A comparison of 8th grade RENP students with the combined grades 4, 5 and 6 revealed a higher percentage of students losing and a lower percentage of students gaining in the eighth than in these late elementary grades. This was found for both Reading and Math Scores.
- Changes in achievement levels from Fall to Spring were much the same for the RENP and Non-RENP groups. Most low achievers on the posttest had been low achievers on the pretest. Middle achievers on the posttest came from all three pretest achievement groups, as might be expected. Only differences were found for the high achievers, where a higher percentage of RENP low achievers and a higher percentage of Non-RENP high achievers ended up in the high achiever group.

TABLE 12.

SUMMARY OF COMPARISONS OF RENP AND NON-RENP STUDENTS WHO GAINED/LOST PERCENTILE POINTS FROM FALL TO SPRING FOR LOW, MIDDLE AND HIGH ACHIEVERS. (GRADES 4, 5 AND 6)

	Reading			Math			
	Total	Vocabulary	Comprehension	Total	Computations	Concepts	Applications
Low Achievers		R*		R		R	
Middle Achievers					NR**	R	
High Achievers		R					

* RENP group favored with higher percentage of students gaining and/or lower percentage losing five or more percentile points relative to Large City Norms.

** Non-RENP group favored as described above.

Summary of Overall Student Gains in Both Study Groups

An overview of percentages of students who gained and lost percentile points relative to large city school students is somewhat encouraging. Comparing the three achievement levels, one would expect to see larger gains for students in the low achievement groups in that they have "more room to grow". The high achievers, on the other hand, are closer to the ceiling and thus have less room to grow. For Reading this is the pattern that emerged, i.e., there were less gains and more losses in the middle and high achiever groups than in the low achiever groups. In Math, however, all three groups experienced about the same percentage of students who lost percentile points. Gains were slightly higher for the low achiever group. Looking at the low achievers, the group in the most trouble academically, shows only 10% of the students losing in Total Reading and 7% to 10% losing in Total Math for the late elementary schools with 25% and 13% losses for Reading and Math respectively in the early secondary 8th grade.

One would hope to see no students losing percentile points. Nonetheless, finding a percentage as high as 56-65% in Reading and 66-76% in Math of students who gained percentile points in spite of being low achievers, means that something is probably "taking" for many students who remain in the school. The success ratio is much worse for the 8th grades low achievers with 36% in Reading and 47% in Math who gained.

WHAT WERE THE STUDENTS LIKE AT THE BEGINNING OF THE NEXT SCHOOL YEAR (FALL 1977)?

Many educators believe that the longer term (from Fall to Fall) instead of the shorter term (from Fall to Spring) program effects are what count , i.e., the true lasting impact. Thus, to evaluate the longer term effects of the RENP and Non-RENP programs, the evaluation design included a third testing (in Fall of 1977). This section will present the results of the Fall 1976 compared with Spring 1977 compared with Fall 1977 analyses. The question addressed is whether or not students are better off after a year in the program than when they started.

Sample

Keeping track of individual students within the study sample for an academic school year presented problems cited in the beginning of this chapter. How much more might we expect losses to occur when trying to track individuals for longer time periods? Nevertheless, every student within the original sample who could be found was tested in October 1977. Naturally, the numbers of students with complete data for all three testing points were greatly reduced from the numbers in the original samples (Table 13).

TABLE 13.

DESCRIPTION OF FALL/SPRING/FALL STUDY SAMPLE (WITH NUMBERS OF STUDENTS LOST SINCE FALL 1976 IN PARENTHESES)

	Number of RENP		Number of NON-RENP	
	Students	Classrooms	Students	Classrooms
4th Grade	69 (43)	5	73 (58)	5
5th Grade	78 (69)	5 (1)	30 (39)	3
6th Grade	46 (72)	4 (1)	18 (145)	4 (3)
8th Grade	99 (168)	8 (1)	0 (143)	0 (6)
Total	292 (352)	22 (3)	121 (385)	12 (9)

The study started in the Fall of 1976 with 46 classrooms and 1,150 students compared with 34 classrooms and 413 students in the Fall of 1977. As with the Fall 1976/Spring 1977 comparisons, no Spring data were available for the 8th grade Non-RENP group. As a result, the long term program effects for the 8th grade were addressed using students who had both Fall 1976 and Fall 1977 data, ignoring the Spring 1977 data. Table 14 shows this study sample for the 8th grade.

TABLE 14.

DESCRIPTION OF FALL 1976/FALL 1977 EIGHTH GRADE STUDY SAMPLE (WITH NUMBERS OF STUDENTS LOST SINCE FALL 1976 IN PARENTHESES)

	NUMBER OF RENP		NUMBER OF NON-RENP	
	Students	Classrooms	Students	Classrooms
8th Grade	137 (130)	9	80 (88)	6

Appendix I presents the sample sizes by achievement level for both Reading and Math comparisons.

Analysis Design

The number of students available for the examination of Fall 1976/Spring 1977/Fall 1977 test results were much smaller than for the Fall/Spring test results. Due to this serious attrition, the representativeness of the sample, due to sample bias, was in question. Therefore, a statistical examination of results was not undertaken. Rather, the program effects will be presented in descriptive terms using the students as the basis for comparisons.

CTBS Reading and Math Achievement for All Levels

Comparison of RENP and Non-RENP students in CTBS Reading and Math Total scores in the Fall of 1977 revealed interesting growth patterns.

Tables 15 and 16 present these growth patterns in terms of increases or decreases in test scores interpreted three ways:

- Number of raw score points gained/lost from Fall to Fall
- Number of percentile points gained/lost from Fall to Fall
- Number of grade equivalent points gained/lost from Fall to Fall.

The reader will note that the results for the three metrics differ. Nevertheless, inspection of all three metrics gives us an estimate of overall program effects.

- Reading-Figures 9 and10 illustrate Reading Total score percentile gains for RENP and Non-RENP progress. RENP students began the next year above their percentile level for the previous year. The largest gains were in the 4th and 5th grades. Non-RENP students tended to start the following year at about the same percentile level with the exception of the 4th grade where they fell behind three percentile points. Appendix J presents means for Fall 1976/Spring 1977/ Fall 1977 for Reading scores.

In Reading Vocabulary Part scores, both RENP and Non-RENP 4th grade groups started the next year one percentile point ahead; and the 5th graders started the next year 13 and 11 percentile points ahead respectively for RENP and Non-RENP. The 6th and 8th grade RENP groups started the next year seven and four percentile points ahead whereas the Non-RENP groups started at about the same place as the previous year.

In Comprehension RENP 4th and 5th graders started the next year at four and eleven percentile points higher; Non-RENP groups started three and eight percentile points below the previous year. Sixth grade results found RENP and Non-RENP

TABLE 15

Comparison of Fall 1976 Pretest and Fall 1977 Posttest CTBS Reading Scores for RENP and NON-RENP by Grades 4, 5, 6 and 8.*

	Total		Vocabulary		Comprehension	
	RENP	NON-RENP	RENP	NON-RENP	RENP	NON-RENP
Estimate of Gains/Losses from Fall 1976 Pretest to Fall 1977 Posttest						
Grade 4						
Raw Score Gained/Lost	14	11	6	6	8	6
Percentile Points Gained/Lost	3%	-3%	1%	- 1%	4%	-3%
Grade Equivalent Growth per 7 Months in RENP	.9	.7	1.0	1.1	1.0	.8
Grade 5						
Raw Score Gained/Lost	12	7	7	6	6	1
Percentile Points Gained/Lost	10%	1%	13%	11%	11%	- 8%
Grade Equivalent Growth per 7 months in RENP	1.6	1.0	1.6	.4	1.7	.3
Grade 6						
Raw Score Gained/Lost	10	10	6	4	4	5
Percentile Points Gained/ Lost	9%	4%	7%	0%	7%	6%
Grade Equivalent Growth per 7 months in RENP	1.2	1.4	1.4	1.0	1.0	1.7
Grade 8						
Raw Score Gained/Lost	10	6	5	3	5	3
Percentile Points Gained/Lost	7%	0%	4%	-1%	5%	-1%
Grade Equivalent Growth per 7 months in RENP	.6	-.9	1.3	-.9	1.8	.-8

*This table is presented to aid in interpretation of results. The reader is reminded that percentile points gained/lost and years growth were determined by comparing student norms with classroom means. Thus the data must be interpreted as the percentile points gained/lost and years of growth which a student whose mean pretest and posttest scores were equivalent to the classroom means would obtain.

TABLE 16

Comparison of Fall 1976 Pretest and Fall 1977 Posttest CTBS Math Scores for RENP and NON-RENP by Grades 4, 5, 6 and 8.*

Estimate of Gains/Losses from Fall 1976 Pretest to Fall 1977 Posttest	Total		Computations		Concepts		Applications	
	RENP	NON-RENP	RENP	NON-RENP	RENP	NON-RENP	RENP	NON-RENP
Grade 4								
Raw Score Gained/Lost	18	16	11	10	3	3	5	4
Percentile Points Gained/Lost	1%	-3%	-1%	-3%	4%	5%	4%	-1%
Grade Equivalent Growth per 7 Months in RENP	1.0	.9	1.1	1.1	1.2	1.4	.9	.9
Grade 5								
Raw Score Gained/Lost	9	17	7	8	1	3	3	6
Percentile Points Gained/Lost	0%	13%	5%	7%	4%	10%	8%	22%
Grade Equivalent Growth per 7 months in RENP	.9	1.7	.9	1.2	.5	1.7	1.3	2.5
Grade 6								
Raw Score Gained/Lost	10	14	5	8	2	2	4	3
Percentile Points Gained/ Lost	3%	8%	.1%	9%	3%	3%	9%	3%
Grade Equivalent Growth per 7 months in RENP	1.0	1.4	.9	1.5	1.2	1.2	1.7	1.2
Grade 8								
Raw Score Gained/Lost	10	12	6	6	2	1	2	5
Percentile Points Gained/Lost	8%	10%	11%	7%	-1%	-6%	1%	20%
Grade Equivalent Growth per 7 months in RENP	1.9	2.0	2.0	1.7	.9	-.6	1.2	2.0

*This table is presented to aid in interpretation of results. The reader is reminded that percentile points gained/lost and years growth were determined by comparing student norms with classroom means. Thus the data must be interpreted as the percentile points gained/lost and years of growth which a student whose mean pretest and posttest scores were equivalent to the classroom means would obtain.

Legend: ——— RENP -------- NON-RENP

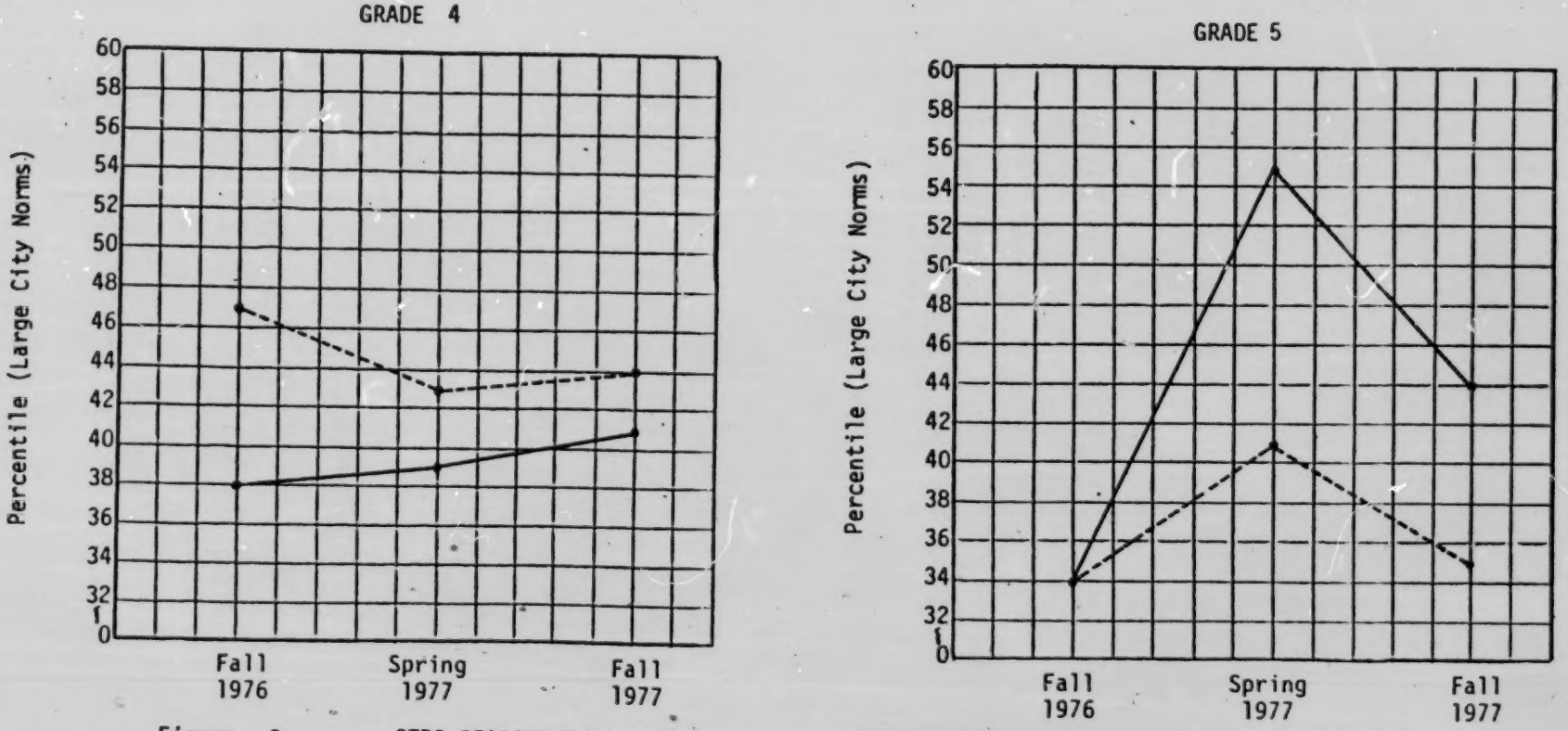


Figure 9. CTBS READING TOTAL SCORE: Mean Percentile Rank Relative to Large City Norms.

Legend: ——— RENP -------- NON-RENP

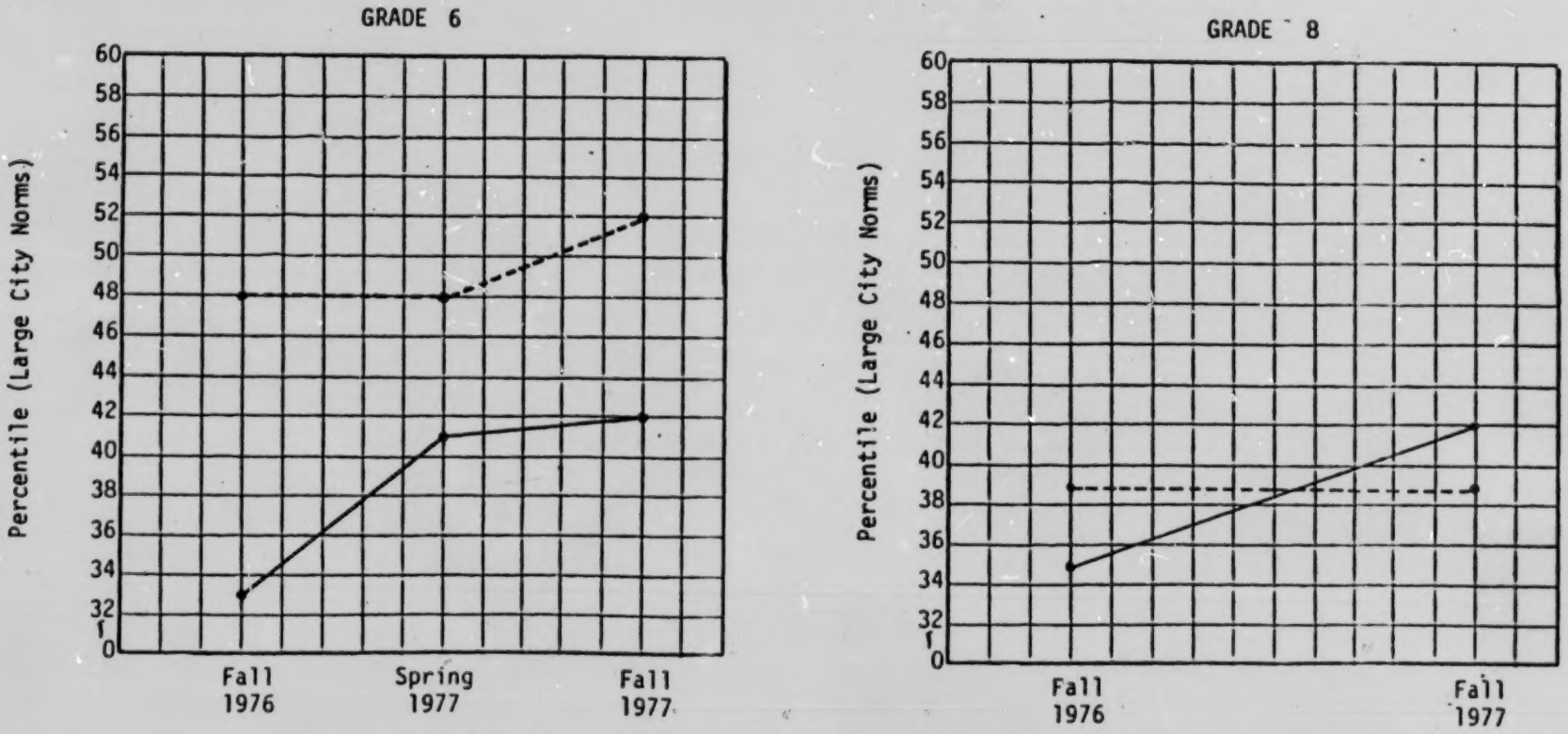


Figure 10. CTBS READING TOTAL SCORE: Mean Percentile Rank Relative to Large City Norms.

groups at seven and six percentile points ahead. Eighth grade RENP students moved ahead by five percentile points while Non-RENP students lagged behind one percentile point.

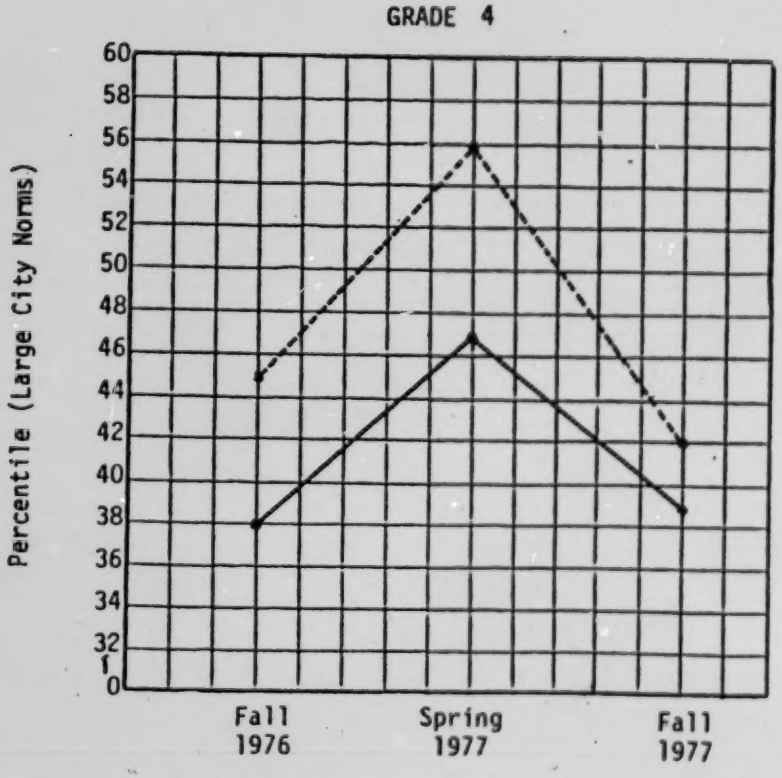
In summary, in Reading Total and Part scores RENP groups consistently started the next year at higher percentile rankings relative to large city norms than they had started the previous year. In most instances greater than five percentile points were gained in the 5th and 6th grades and less than five in the 4th and 8th grades.

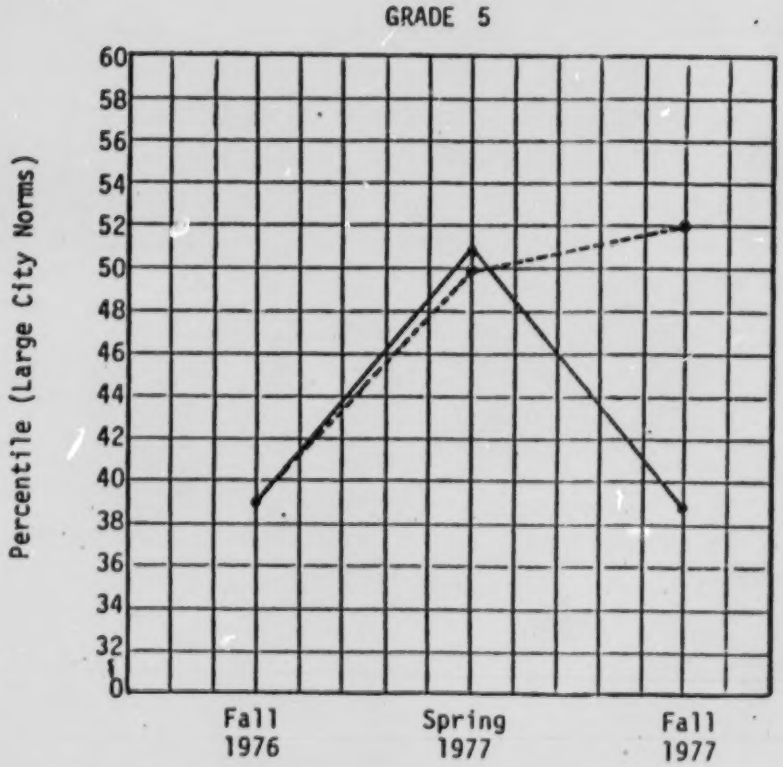
Non-RENP groups lost percentile points or stayed about the same in the 4th and 8th grades. Mixed results were found for grades 5 and 6; in grade 5, gaining a large number of percentile points in Vocabulary and losing a large number in Comprehension resulting in overall Reading scores at pretest maintenance level; in grade 6, gaining in Comprehension and staying the same in Vocabulary for a small overall gain in Reading Total.

• Math - Figures 11 and 12 illustrate Total Math percentage points gained for RENP and Non-RENP. (Appendix J presents means for Fall 1976, Spring 1977 and Fall 1977 for Math Scores.) In Math Total scores, RENP groups maintained pretest percentile levels in the 4th, 5th and 6th grades and gained eight percentile points in the 8th grade. Non-RENP groups lost a few percentile points in the 4th grade but had large gains (from 8% to 13%) in the 5th, 6th and 8th grades.

Math Part scores varied more. In the 4th grade RENP group slight gains were made over and above maintenance of pretest percentile in Concepts and Applications with slight losses in Computations. Percentile points were gained in all three RENP

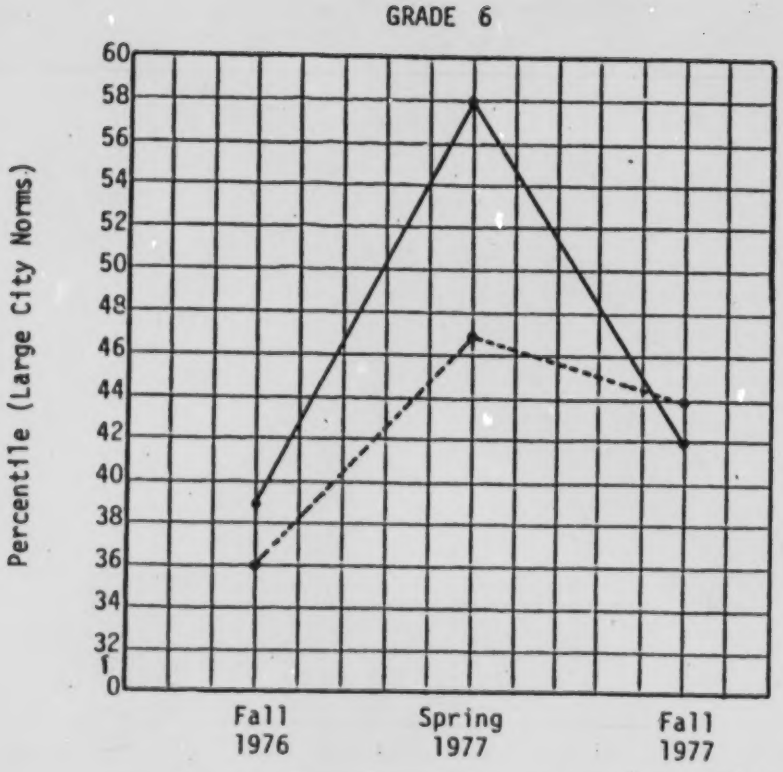
Legend: ——— RENP -------- NON-RENP

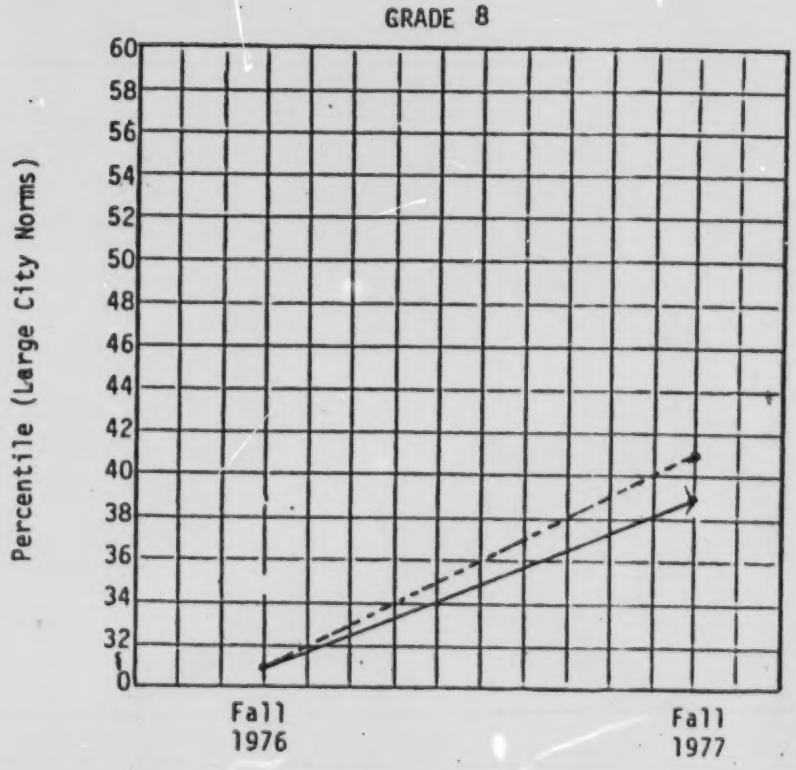




Figures 11. CTBS MATH TOTAL SCORE: Mean Percentile Rank Relative to Large City Norms.

Legend: ——— RENP -------- NON-RENP





Figures 12 CTBS MATH TOTAL SCORE: Mean Percentile Rank Relative to Large City Norms.

5th and 6th grade Math Part scores with large gains only in Applications. The RENP 8th grade lost or stayed the same in Concepts and Applications but made large gains in Computations.

Non-RENP groups in the 4th grade lost slightly in Applications and Computations and gained five percentile points in Concepts. Non-RENP 5th grades made consistently large gains (from 7% to 22%) while 6th graders made large gains in Computations and slight gains in Concepts and Applications. Non-RENP eighth grades lost in Math Concepts but made sizeable gains in Computations (7%) and in Applications (20%).

In summary, Math score gains showed Non-RENP gaining more than four percentile points in ten of sixteen Math score comparisons (4 grades and 4 scores) while RENP gained more only in five of sixteen comparisons.

CTBS Scores by Achievement Level

CTBS Reading Total and Math Total scores were examined for the low, middle and high achiever groups. (Appendix K presents Fall/Spring/Fall means for RENP and Non-RENP low, middle and high achiever groups by grades 4, 5 and 6 and Fall/Fall means for 8th grade.) The three achiever groups varied in Reading and Math as far as maintaining or increasing their pretest percentile level.

- Reading Total Scores - Low achievers in both RENP and Non-RENP did better than maintain their pretest precentile level. RENP has large gains (from 11 to 16 percentile points) in all grades. Non-RENP had moderate gains (two to six percentile points) in the 4th, 5th and 8th grades and large gains (12%) in the 6th grade.

Middle Achiever gains were moderate (from one to eight percentile points) in the 4th, 5th and 8th grades for RENP and Non-RENP with Non-RENP having higher gains in the 4th and RENP higher in the 8th grade. In the 6th grade, Non-RENP gained a large number of percentile points (16) while RENP remained at pretest level.

High Achievers showed mixed results by grade. In grades 5 and 6 both RENP and Non-RENP groups tended to stay the same or lost percentile points, the greatest losses being for 6th grade Non-RENP. Large gains, however, were experienced in the 4th and 8th grades for RENP and slight gains for Non-RENP.

- Math Total Scores - Low achievers in both RENP and Non-RENP experienced large gains (from six to fourteen percentile points) in the 4th, 5th and 8th grades. In the 6th grade RENP groups gained twice as much as Non-RENP (19 compared with eight percentile points) although both gains were substantial.

Middle achievers showed Non-RENP groups with moderate gains in the 4th and 6th grades and large gains in the 5th and 8th. RENP experienced mixed results with sizeable gains in the 4th and 8th grades, pretest percentile maintenance in the 6th and sizeable losses in the 5th grade.

High achievers again had mixed effects. In the 4th grade RENP had moderate gains while Non-RENP moved to slightly below maintenance. In the 5th both groups remained close to pretest level. In the 6th grade large RENP/Non-RENP differences occurred with RENP experiencing large losses (13%) and Non-RENP large gains (14%). Both groups had large gains in the 8th grade.

In summary, all low achiever groups gained in percentile points from Fall of 1976 to Fall of 1977, showing large gains in both RENP and Non-RENP groups. Middle achievers in most instances did better than maintain their pretest level. High achievers showed mixed results.

What are the overall comparisons between RENP and Non-RENP groups?

- RENP superior by grade (at least five percentile points greater growth).

  * 4th Grade Reading Total
  * 4th Grade Reading Comprehension
  * 5th Grade Reading Total
  * 5th Grade Reading Comprehension
  * 6th Grade Reading Total
  * 6th Grade Reading Comprehension
  * 6th Grade Math Applications
  * 8th Grade Reading Total
  * 8th Grade Reading Comprehension

- Non-RENP superior by grade (at least five percentile points greater growth).

  * 5th Grade Math Total
  * 5th Grade Math Concepts
  * 5th Grade Math Applications
  * 6th Grade Math Total
  * 6th Grade Math Computations

- RENP superior by level (at least five percentile points greater growth).
  - * Low Achievers - 4th, 5th and 8th grades Reading and 6th grade Math.
  - * Middle Achievers - 4th grade Reading.
  - * High Achievers - 4th and 8th grades Reading and 4th grade Math.

- Non-RENP superior by level (at least five percentile points greater growth).
  - * Low Achievers - None
  - * Middle Achievers - 6th grade Reading and 6th grade Math.
  - * High Achievers - 6th grade Math.

CHAPTER VII

WHAT HAPPENED IN THE RENP CLASSROOM?

This section of the report concentrates on what RENP and Non-RENP classrooms "look like" along the dimensions cited in Chapter V. It describes major characteristics which recur throughout the classrooms regardless of grade or subject matter and will subsequently identify differences, if any, between mathematics and reading classrooms. Finally, if there are any important differences between grades, that is, whether fourth, fifth, sixth or eighth grade classrooms differ on one or more important dimension, such differences will also be described.

It should be noted that the "pictures" of the classrooms to be presented in this section do not represent measures of teacher growth in specific competencies. While it would be ideal to note whether such growth had occurred, or whether there were differences in growth patterns between RENP and Non-RENP teachers, that ideal cannot be realized in this report because the evaluation of the program upon whose data this report depends began after the program had been in operation for approximately six years. Thus, no "base line" measures for comparison are possible. We simply do not know what teachers looked like prior to RENP treatment. This section presents "pictures" of RENP and Non-RENP classrooms as they were toward the end of the funding period covered by the NIE grant.

A BRIEF WORD ABOUT DATA COLLECTION ACTIVITIES

The specific technical details of the types of data collected regarding teachers and the procedures utilized to collect such data are described in Technical Appendix L. It is sufficient to note here tnat the data upon which classroom descriptions are based stem from three sources. They are:

- Structured Observations - Most of the data pertaining to classroom processes which have been described in the literature as relating to improved student achievement in reading and/or mathematics were collected via the use of a structured observation instrument similar to that used in several other studies of compensatory education. Each teacher in the sample was observed twice over a five week period at the end of the academic year. The data collection instrument was completed approximately three times during each classroom observation period.
- Teacher Interviews - Most of the data which related to program-specific criteria, as described in Chapter V, were collected via teacher interviews which were conducted at the end of the first observation period.
- Observer Field Notes - Between each of the structured classroom observations, which occurred approximately once each fifteen minutes during an observation period, observers were asked to take comprehensive field notes regarding activities occurring within a specific classroom. These field notes add context and understanding to the results of the structured observations and interviews, and provide an additional source of data regarding certain classroom processes not covered by either of the other techniques. The quotations and examples to be cited in this section were gleaned from the observers' field notes.

WHAT ARE THE CRITERIA AGAIN - A Brief Statement of Expectations

In Chapter V we explored the question of what was reasonable as expected outcomes from RENP. Prior to describing what RENP and Non-RENP classrooms looked like, it is worthwhile to restate briefly the criteria suggested for determining whether or not the program had been successful in regard to teachers. Essentially, eleven criteria were suggested in Chapter V. The first seven are drawn from literature on classroom process research and the last four were distilled from program documents. These criteria are as follows: (also see Appendix M)

- Time on Task - This is probably the most important criterion of all since research indicates that it is highly correlated with student achievement. The expectation is that children within RENP classrooms would spend at least fifty percent of the classroom time on task-related activities.
- Direct Instruction - It is expected that RENP classrooms will be "teacher centered" and that teachers will select materials, activities and will make goals clear to students.
- Grouping - It is expected that RENP classrooms will be characterized by either small (three to seven students) or large (more than seven students) groups interacting with teachers.
- Classroom Management - It is expected that RENP teachers will devote a minimum amount of time to classroom management activities.
- Use of Convergent Questions - It is expected that RENP classrooms will be characterized by teachers asking short, topic-specific questions to which factual answers which either are "right" or "wrong" are anticipated.
- Use of Highly Structured Materials - It is expected that RENP classrooms will be characterized by the use of highly structured materials such as workbooks, worksheets, basal reading text and the like.
- Classroom Atmosphere - It is expected that RENP classrooms will be "warm" and "supportive".
- Learning Plans for Students - It is expected that RENP teachers will have learning plans for all students readily available within the classroom.
- Utilization of Criterion Referenced Test Results - It is expected that RENP teachers will report that they utilized criterion referenced test results in constructing learning plans for students.
- Clear Lesson Objectives - It is expected that RENP teachers will have explicit lesson plans readily available within the classroom and that the objectives of a particular lesson are clear to students.

- Utilization of Reading Centers and Math Labs - It is expected that RENP teachers will report that they regularly send students to the reading centers and math labs based on their diagnosis of students' needs for additional work in particular skill areas.

WHAT DO THE CLASSROOMS LOOK LIKE?

It is difficult to capture, even to the trained eye, all of the significant activities going on simultaneously in a classroom. The multiple approach to data collection has resulted in a broad and intensive look at each classroom at given points in time. Many of the differences in RENP vs Non-RENP, math vs reading and different grades were indeed subtle. Further, the "pictures" which follow, although presented sequentially, describe activities which are in fact concurrent. The description of RENP and Non-RENP classrooms which are given below will attempt to identify, characterize and explain any differences which were found. Unless otherwise specified the data below are derived from structured classroom observations. (See Appendices N through P.)

WHAT ARE THE CLASSROOMS LIKE IN RELATION TO "TIME ON TASK"?

On this most critical dimensions of classroom process do RENP and Non-RENP classrooms tend to be different? They are different and the difference clearly favors RENP. Across <u>all</u> RENP classrooms, for all grades and for both subjects, the <u>average</u> amount of total classroom time which students devoted to "on task activities" was approximately 66%. Conversely, the amount of time spent on task-related activities in Non-RENP classrooms was approximately 59%. Clearly, both RENP and Non-RENP classrooms exceeded the 50% criterion cited earlier. Yet, if, as recent research informs us, the more time spent on task-related activities the better the student achievement, RENP is superior on this dimension.

There are several possible explanations for such differences. There are many types of "on task activity" in which students can engage during a classroom period. They, for example, may be reading silently

from a textbook, they may be reading aloud, they may be going through practice or drill" exercises, or going over problems on tests with teachers. Of all the possibilities, however, one of the most beneficial "on task activities" relates to the notion of drill and practice. Simply put, the more time students spend in reading and math in such activities, the greater the likelihood of significant improvements in student achievements. It is on this dimension, that RENP classrooms seem most clearly differentiated from Non-RENP classes. In RENP classrooms slightly more than 50% of the total class time was devoted to such activities, while in Non-RENP classrooms slightly less than 40% of the time was devoted to such activity. While these differences are <u>not</u> statistically significant, they still may have some educational significance in that on this most critical aspect of the "time on task" notion RENP students spend much more time in practice and drill activities than did their counterparts in Non-RENP classrooms.

The differences between RENP and Non-RENP classrooms regarding the "on task" concept is perhaps best summarized by selected comments distilled from observers field notes:

Regarding RENP classrooms - "There is very little 'monkey business' here...students seem to get down to business very quickly...they know what is expected of them..they get out the materials and begin to work their way through them very quickly...their attention span is surprising and they do not seem easily distracted..."

Regarding Non-RENP classrooms - "Students spend a lot of time working their way through materials...they seem frequently interrupted by other students...(while) the students are interacting with materials the interaction isn't always sustained...and there are frequent interruptions to the activities..."

The composite quotations cited above suggest not only that RENP students spend more time on task related activities, but that the quality of time spent on such activities may differ. That is, there is some evidence to suggest that RENP students spend more sustained or non-interrupted time on task-activities than do students in Non-RENP classrooms.

Are There Any Differences Between Reading and Math Classrooms Regarding "Time on Task"?

There appear to be some differences related to subject matter though the differences between RENP and Non-RENP are consistent. In mathematics classrooms, RENP students spend approximately 58% of the total class time on task-related activities while Non-RENP students spend slightly less time, about 55%, on such activities. The same discrepencies between RENP and Non-RENP classrooms exist in relation to "practice" or "drill" activities. Students in RENP classrooms spend about 48% of the time during a given math period in such activities, while students in Non-RENP classrooms spend about 44% of their time in such activities.

In reading classrooms, the differences between RENP and Non-RENP are slightly larger than in math regarding the concept of "on task activities" and much greater regarding the "practice" or "drill" aspect of time on task notion. In RENP reading classes, students spend approximately 70% of total class time on task-related activities, while in Non-RENP classrooms students spend about 64% of the time on similar activities. Regarding practice-drill activities, however, the differences between RENP and Non-RENP classes are more pronounced in that RENP students in reading classrooms spend slightly more than half of their total time in practice or drill activities, while Non-RENP students spend 36% of their time in similar activities. For RENP reading classrooms, one observer seemed to characterize the sentiments of many in stating: "Practice, practice, practice discreet skills...that's what these classes... seem all about".

Are There Any Differences Among Grades?

There are some differences but, with one exception, they seem relatively minor. RENP students tend to spend more time on task-related activities, particularly in the "practice" or "drill" area in both reading and mathematics classes, than do Non-RENP students. The one notable exception to this pattern is in grade five mathematics classes. Within these classes, children in Non-RENP classrooms spend about 20% more time per class period engaged in "on task" activities than do RENP students. Thus, Non-RENP students spend approximately 62% of the time engaged in such activities, while RENP students spend about 42% of time engaged in such activities. Further, in grade five mathematics classes, Non-RENP students spend approximately half of the total class time engaged in practice or drill activities, compared to approximately 26% time for RENP students engaged in similar activities. With this single exception, however, while the percentages vary from grade to grade and between reading and mathematics, the pattern consistently favors RENP.

WHAT ARE THE CLASSROOMS LIKE IN RELATION TO "DIRECT INSTRUCTION" OR TEACHER CONTROL OF THE CLASSROOMS?

While both RENP and Non-RENP classrooms may be classified in general as "high" in teacher control or direction of learning activities, RENP classrooms tend to be higher on this dimension than do Non-RENP classrooms. As a rule, RENP teachers tend to assume a more directive role tending to direct childrens' activities more than Non-RENP teachers. Thus, while both RENP and Non-RENP classrooms are definitely "teacher-centered" the RENP classrooms appear to be more teacher-centered than Non-RENP classrooms. As a rule, RENP teachers spent approximately 56% of their total class time directing children in activities. Conversely, Non-RENP teachers spent slightly less than half of their total class time (about 49%) engaged in similar directive activities. This means that RENP teachers were more likely to select materials and/or learning activities for children and to interact with children during such activities.

The differences in "teacher centered" orientation between RENP and Non-RENP classrooms are best summarized by the composite selected quotations from observers' field notes:

Regarding RENP Classrooms - "(The) teacher is in total control... (she) selects virtually all materials which will be used that day and... explains to each group of children what they will be doing with the materials during the (class) period...these children are not free to select what they will do...the class is dominated by the teacher..."

Regarding Non-RENP Classrooms - "The (teacher) is pretty much in control...(but) students have some options...the teacher usually selects activities...but...students have some freedom of choice in selecting materials...teachers tend to explain activities...they (teachers) don't always interact with students during learning activities..."

Thus, as was the case with the "time on task" notion discussed previously, there may be qualitative differences between RENP and Non-RENP classrooms regarding the notion of teacher direction as well as the quantitative differences which exist. That is, RENP teachers tend not only to select activities for students, but to provide them with specific learning materials to accomplish such activities as well. Further, they tend to "help" children through an activity. Non-RENP teachers like their RENP counterparts do select activities for children. However, they may let children participate in the decision regarding the selection of materials to accomplish specific activities. Finally, Non-RENP teachers may not "work through" learning activities with children to the same extent as RENP teachers.

Are There Any Differences Along This Dimension Between Reading And Mathematics Classrooms?

There do appear to be differences between reading and mathematics classrooms along this dimension. In mathematics classrooms, both RENP and Non-RENP teachers tend to spend approximately 53% of their time directing children in learning activities. As indicated above, however, the

quality or content of such directive activities may differ somewhat between the two sets of classrooms. In reading classrooms, RENP teachers spend approximately 50% of the time directing children in activities while their Non-RENP counterparts spend approximately 46% of their time engaged in similar activities.

Are There Any Differences on This Dimension by Grade

While the overall pattern of teacher directiveness across both subjects and all grades, favors RENP classrooms there are differences, some slight and others pronounced, between RENP and Non-RENP classrooms according to both grade and subject matter. In fact, there are so many differences, that each grade and subject should be described briefly in turn.

- Grade Four - Mathematics: Within fourth grade mathematics classrooms, Non-RENP teachers tend to be slightly more directive than do RENP teachers, the former spending approximately 61% of classroom time in such activity and the latter spending approximately 56% of total class time engaged in directive activities. One possible explanation for the difference between RENP and Non-RENP grade four mathematics classrooms offered by the classroom observers has to do with the selection of materials. For example - "In these (RENP) classrooms... teachers don't spend a lot of time selecting activities for children to pursue...children seem to know what's expected... and...teachers spend most of their time helping children work through activities." Conversely, in relation to Non-RENP mathematics classrooms in grade four several observers noted - "These (Non-RENP) teachers spend a lot of time...each day... selecting learning activities for students..."
- Grade Four - Reading: In grade four reading classrooms RENP teachers spend approximately 15% more time on directive activities than do Non-RENP teachers thus, RENP teachers devote approximately

59% of a given class to directive activities, while their Non-RENP counterparts devote only 44% of their time to such activity. Unfortunately, observer's field notes do not offer any plausible explanations for this discrepancy. Looking at data from other classrooms, however, one might offer the possibility that RENP teachers spend more time helping students work through specific learning activities than do Non-RENP teachers.

- Grade Five - Mathematics: There are no pronounced differences between RENP and Non-RENP teachers in grade five mathematics classrooms along this dimension.
- Grade Five - Reading: RENP teachers in grade five reading classrooms tend to spend about 7% more time than do Non-RENP teachers engaged in directive activities. (RENP teachers devote approximately 54% of a given reading period to directive activities, while their Non-RENP colleagues devote approximately 48% of their time to similar activities.) This difference may be attributable to the notion cited earlier that RENP teachers spend more time than do Non-RENP teachers in helping students work through learning activities.
- Grade Six - Mathematics: Similar in many respects to the case just cited, RENP teachers spend approximately 10% more time engaged in directive activities in grade six mathematics classrooms than do Non-RENP teachers. (RENP teachers spend approximately 61% of their time engaged in directive activities while Non-RENP teachers engaged in such activities approximately 51% of the time.)
- Grade Six - Reading: There is a marginal difference between RENP and Non-RENP teachers in this grade, with Non-RENP teachers spending approximately 3% more of their time devoted to directive activities than RENP teachers. This difference is marginal and probably insignificant. It is interesting to note however, that

grade six reading teachers, whether RENP or Non-RENP, tend to spend significantly less time directing children in learning activities than do teachers in grades four and five. The average amount of time which teachers spend in directive activities in grade six reading classrooms is approximately 41%. Again, the field notes of the observers offer no explanation of this phenomenon. It may be logical to assume that as students get older teachers tend to feel that they need less direction and hence spend less time in such activities.

- Grade Eight - Mathematics: There appears to be a large difference between RENP and Non-RENP teachers in the eighth grade with regard to the "teacher directiveness" dimension. RENP teachers spend 19% more time in directing activities (50% vs 31%) in the mathematics classrooms.
- Grade Eight - Reading: In the reading area the reverse relationship was found. There is a large difference in grade eight between RENP and Non-RENP teachers along the "teacher directiveness" dimension with Non-RENP teachers spending approximately 15% more of their time in directive activities than RENP teachers.

What Have We Said So Far Regarding Teacher Directiveness?

While there are differences between the subjects and among the various grades, the overall pattern of teacher directiveness seems to favor RENP. That is, RENP teachers across classrooms and in both subjects tend to spend more time directing children in learning activities than do Non-RENP teachers.

WHAT ARE THE DIFFERENCES BETWEEN RENP AND NON-RENP REGARDING GROUPING?

As stated earlier, recent research has demonstrated that classrooms in which significant improvement in reading and mathematics achievement is most likely to occur are characterized by large and small groups

of students interacting with the teacher. Thus, there are two important notions or aspects of this dimension: first, classrooms should be characterized by small (three to seven students) or large (more than seven students) groups; and second, such groups should be interacting with the teacher on a frequent basis, and not working independently. Overall, there are differences between RENP and Non-RENP on this dimension which clearly favor RENP. First, as a rule, in RENP classrooms, students spent approximately 57% of the time interacting with their teacher. Within Non-RENP classrooms students spent approximately 50% of the time interacting with the teacher. Second, and most important, within RENP classrooms, student teacher interaction within large and small groups occurred 54% of the time, while in Non-RENP classrooms such interaction occurred only 47% of the time. Both RENP and Non-RENP classrooms devoted slightly more than 80% of total class time across all grades and both subjects to large and/or small group instruction. The critical difference between the two classrooms appears to be that RENP students were more likely to be interacting with the teacher within the large and small group context than were Non-RENP students. Conversely, Non-RENP students though working in large and/or small group situations spent less time interacting with the teacher and more time interacting with other students.

Are There Any Differences Between Reading and Mathematics Classes on This Dimension?

In mathematics classes RENP students interacted with teachers in large and/or small group settings approximately 59% of the time, while in Non-RENP classrooms devoted to mathematics such interaction occurred only approximately 51% of the time. Within reading classrooms, though, RENP students interacted with the teachers more within large and/or small group settings, the difference is slight. RENP students interacted with the teachers in such settings approximately 48% of the time, while Non-RENP students interacted with the teacher in similar settings approximately 46% of the time. Thus, while RENP classrooms in both reading and mathe-

matics are characterized by more student interaction with teachers in large and/or small group settings than Non-RENP classrooms, the difference is more pronounced in mathematics than in reading.

Are There Pronounced Differences Among Grades?

There appear to be differences - particularly in the area of mathematics instruction. For example, in grade four and five mathematics classes, Non-RENP students were slightly more prone to interact with the teacher in large and/or small group situations than were RENP students. Further, in grade five, Non-RENP teachers tended to utilize large and/or small group instructional techniques much more frequently than did their RENP colleagues. Conversely, in grades six and eight, RENP students spent approximately 20% more time interacting with teachers in large and/or small group settings than Non-RENP students.

In the case of reading classrooms, with the notable exception of grade eight, the pattern is clearer in grades four and five-RENP students interact with teachers in a large and/or small group setting about 5% more of the time than do Non-RENP students. In grade six, RENP and Non-RENP students interact with the teacher in large and/or small group context with about equal frequency. In grade eight however, Non-RENP students interact with teachers in large and/or small group settings approximately 16% more of the time than do RENP students.

Within grade eight, the discrepency between RENP and Non-RENP classrooms may be largely accounted for by the fact that Non-RENP students spent almost twice as much time as RENP students receiving explanations or instructions regarding particular learning activities. This explanation is consistent with the observation cited earlier that Non-RENP grade eight classrooms seemed more "chaotic" than did RENP classrooms.

What Have We Said So Far Regarding Grouping?

Again, while there are some differences across grades, and between subjects, the overall pattern seems to favor RENP. The RENP

classrooms were more likely to be characterized by large and/or small groups of students interacting with teachers than were Non-RENP classrooms.

IS THERE A DIFFERENCE BETWEEN RENP AND NON-RENP CLASSROOMS REGARDING THE DIMENSION OF CLASSROOM MANAGEMENT?

Spending a large percentage of time in classroom managerial functions bears a negative relationship to increased student achievement in that such time takes students away from task-related activities. Thus, it is not desirable for teachers to devote a lot of time to classroom management. Overall, neither RENP or Non-RENP teachers devoted significant amounts of time to managerial functions, though Non-RENP teachers tended to devote slightly more time to classroom management. Overall, RENP teachers devoted only about 4% of total class time to managerial functions, and their Non-RENP counterparts devoted approximately 5% of total class time to such activities.

Are There Any Differences On This Dimension Between Reading And Mathematics Classrooms?

No real difference occurred on this dimension between reading and math classrooms. In both reading and mathematics classrooms, Non-RENP teachers spend approximately 1% more of their time in classroom managerial functions than RENP teachers. Thus, in the case of mathematics classes, RENP teachers devoted approximately 5% of total class time to managerial functions, while Non-RENP teachers devoted approximately 6% of their time to such functions. In the case of reading, RENP teachers spent approximately 4% of total class time in management-related functions, while Non-RENP teachers spent approximately 5% of their time in similar functions.

Are There Any Differences Between RENP and Non-RENP on This Dimension Among Grades?

In grade four mathematics classrooms Non-RENP teachers spent approximately 6% more time in management-related functions than did RENP

teachers. The same holds true in the case of grade five reading classrooms. Conversely, in the case of grade eight reading classrooms, RENP teachers spent approximately 7% more of their time in managerial functions than did Non-RENP teachers. The grade differences which have been noted may be largely attributable to single classes within each grade since during the time the observations took place some individual teachers appeared to experience difficulty in "controlling" the classroom.

What Have We Said Regarding Classroom Management?

It seems that both RENP and Non-RENP teachers "look good" on this dimension. That is, neither group of teachers spend very much time on management-related activities.

ARE THERE ANY DIFFERENCES BETWEEN RENP AND NON-RENP REGARDING THE DIMENSION OF "CONVERGENT QUESTIONING"?

Overall, observer's field notes indicate that there are no critical differences between RENP and Non-RENP classrooms regarding the questioning behaviors of teachers. Both sets of classrooms, across both subjects and all grades tend to be characterized by questioning behaviors which correspond to that which recent research informs us is appropriate. That is, teachers tend to ask short questions of a factual nature, to which a "right" or "wrong" answer is expected. Further, teacher's feedback to students regarding their answers to such factual questions tend to be immediate and supportive. Thus, the following composite quotation, culled from observers field notes accurately summarizes the questioning behavior of RENP and Non-RENP teachers across both subjects and all grades:

> "Questions are of the "yes" and "no"...of the "right" or "wrong" variety...in math...teachers usually ask students for answers to problems and...will praise them if they give the right answer...and "lead them" to the right answer if their initial answer was wrong...in reading questions like... which word begins with a hard consonant?...where is the vowel in this word..."

While convergent questioning behavior on the part of teachers may seem "boring" or "repetitive" and of a lower level of cognition than "open ended" questioning behaviors, which solicit student opinion, there are several studies which indicate that "boring" as it may be, such questioning behavior on the part of teachers is correlated with higher student achievement in reading and mathematics.

On this dimension, the observers noted no salient differences between RENP and Non-RENP classrooms regarding the dimension of convergent questioning behavior. Both sets of classrooms are "on target" regarding this dimension.

ARE THERE ANY DIFFERENCES BETWEEN RENP AND NON-RENP ALONG THE DIMENSION OF "STRUCTURED MATERIALS"?

Learning materials which are carefully structured or sequenced, thus leading students through a discrete series of learning activities, are correlated with increased student achievement in mathematics. The span of "structured materials" is large and degree of structure within these materials can and does vary. For example, workbooks (or worksheets) are slightly more structured than textbooks, which tend to be more structured than games, which in turn are more structured than audiovisual equipment or chalkboards. The "structured material" to which most studies refer when discussing this dimension concern workbooks or worksheets. Thus, the following discussion will focus primarily on the use of workbooks and worksheets within the classroom.

Are There Any Differences Between RENP And Non-RENP Classrooms on This Dimension?

There appear to be some slight differences in favor of Non-RENP classrooms. Across both subjects, and all grades, students utilized workbooks and/or worksheets approximately 55% of the time in Non-RENP classrooms as opposed to 49% of the time in RENP classrooms.

However, looking at the data from "on task activity" RENP students do spend more time actively engaged "on task". It may be that though Non-RENP teachers provide their students with highly structured materials more often than RENP teachers, RENP students are more actively engaged a higher percentage of the time with these materials than Non-RENP students. This notion is partially supported by some comments made by the observers' field notes.

Regarding RENP Classrooms - "There are a lot of workbooks and ditto worksheets...students seem to work through them...they are not easily deflected..."

Regarding Non-RENP Classrooms - "Teachers...use a lot of workbooks...and...worksheets...but...a lot of the time they just sit there on student's desks...sometimes a student can sit at his desk... for a long time...without making any notations on a worksheet..."

Thus, while RENP teachers use highly structured materials less often than their Non-RENP counterparts, it is possible that RENP students may be more actively engaged with the materials than Non-RENP students.

Are There Differences in the Use of Highly Structured Materials Between Reading and Mathematics Classrooms?

In the case of mathematics classrooms, Non-RENP teachers use highly structured materials such as workbooks and worksheets approximately 46% of the time, while RENP teachers use such materials approximately 39% of the time. However, in the case of reading classrooms, RENP teachers use highly structured materials approximately 62% of the time while Non-RENP teachers use such materials approximately 55% of the time. One significant reason for the discrepancy between RENP and Non-RENP classrooms in the case of mathematics may lie with the fact that RENP math teachers are much more likely to use games or manipulative materials such as quasinare rods than are Non-RENP teachers. In the case of reading, Non-RENP teachers are much more likely than RENP teachers to use textbooks which accounts for the difference in the use of highly structured materials along this dimension.

Are There Differences Among Grades Regarding The Use of Structured Materials?

The differences in the use of structured materials between reading and math among the various grades are highly varied. A brief description of the use of such materials in each subject and each grade is provided below.

- Grade Four - Mathematics: Grade four RENP math teachers are more likely to use structured materials than are Non-RENP teachers. In fact, RENP teachers in this sample used such materials approximately 35% of the time, compared to their Non-RENP colleagues who used them approximately 30% of the time. Conversely, Non-RENP teachers used textbooks approximately 15% of the time while RENP teachers used textbooks only 11% of the time.
- Grade Four - Reading: In this case, a pattern similar to that described above is maintained. RENP teachers use workbooks or worksheets approximately 67% of the time, and their Non-RENP counterparts used such materials approximately 59% of the time. Conversely, Non-RENP teachers used textbooks approximately 29% of the time, while RENP teachers used such materials only 7% of the time.
- Grade Five - Mathematics: In grade five, the pattern described above is reversed in that Non-RENP teachers used highly structured materials approximately 56% of the time, compared to 35% of the time for RENP teachers. Further, RENP teachers used textbooks approximately 21% of the time while Non-RENP teachers used textbooks only about 1% of the time.
- Grade Five - Reading: Unlike the situation described immediately above, RENP teachers tend to use highly structured materials approximately 61% of the time in grade five reading classes, while Non-RENP used structured materials only 47% of the time. Conversely, Non-RENP teachers use textbooks approximately 46% of the time, while Non-RENP teachers used such materials only 11% of the time.

- Grade Six - Mathematics: In this case the initial pattern emerges again, with RENP teachers using structured materials only 47% of the time and Non-RENP teachers using similar materials approximately 52% of the time. However, unlike previous instances, Non-RENP teachers are also most likely to use textbooks than are RENP teachers. The differences in grade six mathematics may be attributed to the fact that RENP teachers use games and/or manipulative materials in math instruction approximately 11% of the time, while their Non-RENP counterparts do not use such materials at all.
- Grade Six - Reading: While the use of textbooks between RENP and Non-RENP grade six reading classes is approximately equal, RENP teachers are more likely to use highly structured materials in this grade. Non-RENP teachers use highly structured workbook-like materials approximately 54% of the time, and their RENP colleagues use such materials approximately 67% of the time.
- Grade Eight - Mathematics: Here again, the initial pattern is repeated, and Non-RENP teachers use highly structured materials approximately 53% of the time while RENP teachers use such materials only 34% of the time. Conversely, RENP teachers use textbooks approximately 42% of the time, compared to Non-RENP teachers who use such materials only 17% of the time.
- Grade Eight - Reading: Non-RENP teachers use highly structured materials approximately 60% of the time, while RENP teachers use similar materials approximately 56% of the time. Further, Non-RENP teachers are slightly more prone to use textbooks (about 6% of the time). Observers notes indicated however that in grade eight reading classes, RENP teachers are much more prone than their Non-RENP counterparts to use "non-curricula materials" such as comic books, magazines, or novels.

What Have We Said So Far Regarding The Use Of Structured Materials?

While the pattern in the use of structured materials fluctuates between subjects and across grades, the overall tendency is for Non-RENP teachers to make slightly greater use of such materials than RENP teachers. However, as previously noted, it may well be that RENP students spend more time engaged in these materials than do Non-RENP students. It is also apparent that RENP teachers use a somewhat greater array of materials in their classrooms than do Non-RENP teachers. For example, RENP teachers are more likely to use games and/or manipulative materials or "non-curricula materials" as cited earlier than are their Non-RENP colleagues. Nevertheless, it must be noted that, overall, Non-RENP teachers tend to use highly structured materials with greater frequency than do RENP teachers.

ARE THERE DIFFERENCES BETWEEN RENP AND NON-RENP CLASSROOMS REGARDING "ATMOSPHERE"?

There were no significant differences along this dimension which classroom observers were able to notice. As a rule, across both subjects and all grades, teachers were perceived as "warm", and "generally supportive of students" and classrooms were generally characterized as being "high in positive affect". The atmosphere existing in RENP and Non-RENP classrooms alike is best summarized by the following composite quotation culled from observers' field notes:

> "This is a happy place to be...teachers try hard to establish a good atmosphere...there are drawings on the bulletin boards... and...cartoons and children's sketches abound...teachers are generally supportive...they are not motherly or physically affectionate...but they do encourage students and...instances of severe or nasty criticism are rare..."

While there were certainly exceptions to the generalization cited above, such exceptions tended to be rare and evenly distributed between RENP and Non-RENP classrooms. Thus, both RENP and Non-RENP classrooms should be rated as high on the dimension of positive atmosphere.

HOW DO RENP AND NON-RENP CLASSROOMS COMPARE ALONG PROGRAM-SPECIFIC DIMENSIONS?

At the beginning of this chapter it was indicated that in addition to the seven criteria distilled from the literature, and discussed above, that there are four additional criteria on which RENP classrooms can be judged. These additional criteria were extracted from the RENP program goals. The discussion which follows describes RENP according to each of these criteria.

Do RENP Teachers Have Learning Plans For Individual Students?

While their profiles are not always on file in a particular classroom, virtually all of the teachers interviewed indicated that they had completed profiles of students in their classes. However, about half the teachers indicated that such profiels were not on file in the math lab or reading center.

What Do These Profiles Contain?

The profiles of student learning plans vary slightly, yet all contain data from the criterion referenced tests which were administered district-wide. In addition, about a third of the teachers reported that they included within the students' learning plan test data from other diagnostic sources such as informal inventories administered during either reading or mathematics classes. Only about 10% of the teachers indicated that they utilized either comments from counselors or their own informal notes on student progress in formulating individual learning plans for students.

Apparently then, RENP has been successful in helping teachers generate learning plans for individual students which are based upon data from criterion referenced tests. Further, that they assign specific "prescribed learning activities" geared to objectives which data from the criterion referenced tests indicated particular students had failed to master. In many cases, as noted above, "student prescriptions" were also based upon the use of informal diagnostic inventories administered by teachers in class.

DO RENP TEACHERS UTILIZE CRITERION REFERENCED TEST RESULTS?

There are significant differences between RENP and Non-RENP teachers regarding the use of criterion-referenced test results. While all of the RENP teachers indicated that they made use of such results, about half of the group further indicated that often they received the results "too late after the start of the year". In these instances, teachers tended to give their own, more informal diagnostic inventories to take the place of the missing criterion-referenced test data. About half of the Non-RENP teachers indicated that they, in fact, make no use of the criterion-referenced test results because, as a rule, "they come too late to do me any good". The difference between RENP and Non-RENP teachers on this dimension is that RENP teachers, admittedly, as a function of their training, use other inventories when criterion-referenced test results are unavailable. Conversely, most of the Non-RENP teachers indicated that, in the absence of criterion-referenced test data, they "use their own judgement" when prescribing learning activities for students.

DO RENP TEACHERS HAVE CLEAR LESSON OBJECTIVES?

RENP teachers do have clear lesson objectives as a rule, but so do Non-RENP teachers. Most classroom observers were quick to point out that, "I understood the objectives of the lesson...and so did the kids...kids seem to know why they were doing what they were doing..."

The entire District of Columbia Public School System curriculum in reading and mathematics is geared to "mastery" of discrete sets of objectives related to needs identified by use of criterion referenced mathematics and reading tests. The curriculum materials available to such teachers are, as a rule, specifically geared to these objectives. It is not surprising, therefore, that "lesson objectives", which often translate into "mastery of discrete objectives", were quite clear to observers in both RENP and Non-RENP classrooms.

DO RENP TEACHERS UTILIZE READING CENTERS AND MATH LABS?

All of the teachers interviewed indicated that they used the reading and/or math labs for a variety of purposes of which the most common were "to help students work on specific skills" or for "general remedial work" for a large group of students. About 10% of the teachers interviewed indicated that they used the reading centers and/or math labs for "acceleration purposes". That is, a few teachers would send students to the reading centers and/or math labs to "work ahead" of the rest of the class.

Non-RENP schools do not have RENP-like math labs and/or reading centers to which they can send students. However, about a third of the Non-RENP teachers interviewed indicated that there were areas in their school to which they frequently sent students in need of remedial work. As a rule, such special places tended to be specially designated areas of the school in which reading and/or math specialists worked. Virtually all of the Non-RENP teachers who indicated that they had no area of their school to which they could send students needing remedial work indicated that they wished a facility would be made available within their school.

It is evident from the interview data that RENP teachers send students to reading centers and math labs on a frequent basis. It is impossible to generalize about the frequency with which such centers

and labs are used since their usage by students is predicated upon students' needs as perceived by teachers. Thus, some students within a given class may go to a reading center or math lab every day for a week to work on specific skill development and after a one week period may not utilize the center or lab again for two or three months. Other teachers may send large groups of students from their classes to the labs and centers on a regularly scheduled basis to work individually or in groups with teacher aides. The generalization which can be made however, is that RENP teachers do make significant use of the labs and centers.

WHAT HAVE WE SAID SO FAR?

The preceding discussion has concerned similiarities and differences among RENP and Non-RENP classrooms as they "measure up" against two sets of criteria. The first set, containing seven dimensions, are criteria identified in recent research studies to be most closely associated with increased student achievement. Along the seven criteria, RENP was clearly superior to Non-RENP along the three most important criteria - Time on Task, Direct Instruction and Grouping. RENP also ranked high, but on a par with Non-RENP classrooms, in terms of management and convergent questioning behavior. In the use of highly structured materials, Non-RENP classrooms were superior. Finally, regarding classroom atmosphere, both RENP and Non-RENP classrooms scored high. Thus, along the dimensions cited in recent research studies as being most important RENP classrooms looked quite good. On the whole, in relation to these dimensions they appear slightly better than Non-RENP classrooms.

With regard to the second set of criteria (comprising four dimensions) it appears that RENP has met each of the four programmatic objectives stipulated earlier. This should not be surprising since a

preponderence of the inservice training delivered by RENP is geared in one form or another, to each of these objectives. What is perhaps most surprising and more meaningful, is that RENP classrooms closely approximate on several critical dimensions, - Time on Task, Direct Instruction and Grouping - "models" which recent studies have indicated are closely associated with increased student achievement. While Non-RENP classrooms also rank high on these dimensions, it is clear that the RENP classrooms more closely approximate such models. This has occurred despite the fact that, as stated earlier, RENP does not derive from a specific model of "good teaching".

While we cannot statistically account for this finding, it seems logical to assume that despite the lack of an "ideal model" inherent in a program proposal or training manual, the "program facilitators" or master teachers who were selected on the basis of their expertise in the teaching of reading and/or mathematics did in fact have such models "in their heads" - models which they were able to communicate to their client teachers during the training process.

CAN WE BE CERTAIN THAT THE RESULTS ARE ATTRIBUTABLE TO RENP?

We cannot be certain, but we can make some reasonable inferences that at least some of the results may be attributable to RENP. First, in relation to the program-specific objectives, all of which were distilled from RENP operating documents, that RENP would meet these criteria is almost axiomatic. Learning plans for students, utilization of criterion referenced test results, and clear lesson objectives are such an integral part of RENP that teachers exposed for any length of time to the program's inservice educational services would, almost as a matter of course meet such objectives. Reading centers and math labs are also such integral parts of RENP that it is almost inconceivable that a teacher who had received RENP training would fail to utilize such facilities.

Obviously, we can be less certain about the criteria derived from studies in the literature concerning classroom processes which are directly related to student outcomes. First, as stated previously, the RENP evaluation occurred during the last year of Federal funding for the project; thus, the program had been ongoing for some time prior to the evaluation. Second, and related to the first point, the teachers chosen to receive RENP training were not "randomly selected". Also, given the ongoing nature of the program, there were teachers in the comparison group who had in the years past received inservice training experiences from RENP. Whether these experiences were the same or vastly different from those received by teachers in the current RENP treatment group is largely a matter of conjecture. Finally, although the RENP classrooms had more of the characteristics identified as desirable than did Non-RENP classrooms, the differences were often marginal, and in fact both sets of classrooms scored high on most of the dimensions.

Can we then attribute the most important outcomes, namely those derived from the literature, to RENP. Not as clearly as we would perhaps like and certainly not as absolutely as a "true experiment" would have allowed. Nevertheless the pattern of differences between RENP and Non-RENP classrooms which recurs along the critical dimensions of time on task, direct instruction and grouping, suggests that RENP may be responsible to some degree for such outcomes. However, "quasi experimental" or "non-rigorous" the evaluation design may have been, as a function of the ongoing program, the simple fact of recurring important differences between the two sets of classrooms cannot be denied. While these differences were not "statistically significant" the trend of the differences with one minor exception consistently favors RENP. Were it possible to derive an aggregate score across all of the critical dimensions which slightly favor RENP the resulting difference between RENP and Non-RENP classrooms might have been statistically signficant - it is impossible to tell. Since an aggregate weighted score across all

dimensions cannot be derived, we can only state that in the light of our current state of knowledge regarding important classroom processes - that the differences between RENP and Non-RENP classrooms may well be educationally meaningful. The reader is cautioned not to assume a direct relationship between classroom processes and student outcomes in this study since the students tested were not, in all cases, in the classrooms of the teachers observed.

CHAPTER VIII

PARENT/COMMUNITY INVOLVEMENT - Did It Live Up To Expectations?

Assessing the "impact" of a programmatic component as diffuse and complex as parent/community involvement is extraordinarily difficult. Even the notion of "community" is at best vague, and at worst impossible to define. Further, neither the notion of "involvement" nor the extent of involvement within the context of RENP has ever been defined by the project. Thus, specific outcomes which "should" ensue from this component of the project were not specified by the program's developers. In a sense, perhaps this is appropriate for if the parent/community involvement component of RENP should be, as suggested earlier, considered in the context of "community activism" or "community control of schools", historical antecedents did not provide program developers with a useful guide for defining expectations for this component. Nonetheless, the lack of definition, compounded by the vague notion of "community control" poses insurmountable problems to those charged with the responsibility for evaluating the success of this component.

The evaluation difficulty cited above is compounded by the dearth of experimental studies available in the open literature. In the case of the RENP inservice training component, it should be remembered the literature was extremely helpful in assisting evaluators to generate reasonable standards by which RENP classrooms could be judged. Unfortunately, in the case of parent/community involvement there are no "hard" data available from such literature to aid in the generation of such standards. What the literature does tell us, however, corroborates what we already know - that the entire concept of "parent/community involvement" is at best a vaguely-articulated value for which, in the context of education, specific goals and objectives have not as yet been clearly stated.

The RENP approaches to parent/community involvement were described in Chapter IV. In that chapter we indicated that RENP offers several potential avenues for stimulating the involvement of parents and community members within the program at several levels. From these involvements or interactions, there are many potential outcomes some of which are observable and/or measureable and some of which are not. Such measures as level or degree of participation are possible; but even here the interpretation is open to question. For example, parents and/or community members may become "involved" within the program at a policy setting level, but not in daily school activities. Is this sufficient for judging the parent/community involvement component successful? If it is, how many parents should be involved and what should the precise nature and extent of their involvement be? Or, is a small number of parents participating in classroom activities as paid aides sufficient for judging the component as successful? Regarding community organizers, given the fact that RENP serves approximately 4,000 students in the Anacostia region, with how many parents should community organizers ideally come into contact? How frequently should contact occur? What should the results of such contact be? Finally, regarding "changes in attitudes", exactly what attitudes should change and whose attitudes should change; and to what extent? Obviously most of these questions have no real answers, given the lack of program-specific objectives and the absence of experimental studies which indicate outcomes for a component like parent/community involvement.

Essentially, evaluating the "effectiveness" of parent/community involvement within RENP, a component which has so many variable and possible outcomes, ultimately boils down to a set of value judgements. We may stipulate criteria which seem reasonable and can present data for each of these criteria which appear to indicate whether or not they were met. Ultimately, however, the "worth" of parent/community involvement remains a subjective judgement. Thus, the intent of this section is to

discuss each of the outcome criteria described in Chapter IV and "what happened" within RENP in relation to each of these criteria. Whether "what happened" can ultimately be viewed as "effective" or "worthwhile" is largely dependent upon the judgement of each individual reader.

WHAT ARE THE CRITERIA AGAIN?

In Chapter IV we described six criteria which seemed reasonable in determining the effectiveness of parent/community involvement. These criteria are briefly restated as follows:

- Does the Anacostia Community School Board (ASCB) actually check policies for the regional schools and does it attract citizens from the region to its meetings?
- Do local school boards meet on a regular basis? Do they set RENP policies in relation to their schools? Do they attract citizens from regions served by that school to their meetings?
- Have either the Anacostia Community School Board or the local school boards spawned "policy setting committees"? If so, are they functional, and do they attract citizen participation?
- Do the attitudes of parents and other community residents who come into contact with the program show a positive change?
- Do parents and/or other community residents serve as volunteers in the classroom?
- Do community organizers have frequent contact with parents and refer parents to social service agencies as the need arises?

DATA COLLECTION STRATEGIES

As stated earlier, data regarding parent/community involvement were as difficult to collect as the "data needs" were difficult to define.

In the case of RENP's other components there were several instruments available to evaluators which allowed them to assess the impact of these components quantitatively. Such was not true in the case of parent/community involvement. Thus, data collection strategies were largely limited to unstructured observations recorded in the form of evaluator field notes, and unstructured interviews also recorded in the form of such field notes. Essentially, the data collection strategies can be defined as follows:

- Member of the evaluator team attended three meetings of the Anacostia Community School Board, keeping copious field notes on the types of issues discussed during ACSB meetings and the actions taken by the ACSB on such issues.
- Four members of the ACSB were interviewed on three different occasions and five members of the ACSB were interviewed once.
- Ten meetings of local school boards were observed, with evaluators taking notes on citizen attendance and participation. During these local school board meetings notes were also kept on the kinds of issues raised and actions taken by the local school boards in relation to such issues.
- Interviews were conducted with two local school board members at each of the ten local school boards whose activities were observed.
- Interviews were conducted on three occasions with five community organizers who served at the schools at which the local school board meetings were observed.
- Interviews were conducted with thirty parents and/or community residents who attended school board meetings.

HOW DOES THE PARENT/COMMUNITY INVOLVEMENT COMPONENT "MEASURE UP" IN RELATION TO THE EFFECTIVENESS CRITERIA?

This section will discuss each of the criteria in turn, and discuss the data collected related to those dimensions. The relationship of these data to RENP will be discussed at the end of this chapter.

Does The ACSB Set Policy and Attract Local Citizens to Its Meetings?

Yes, it does, although the degree of citizen participation seems to vary according to the type of issues being discussed at ACSB meetings. Briefly, the data regarding "policy setting" and citizen participation are as follows:

- Regarding Policy Setting - During the period of the evaluation, the Anacostia Community School Board met monthly to discuss and take action upon issues directly pertaining to RENP specifically and to region schools in general. As noted earlier, the responsibilities of the regional board extend beyond the parameters of the RENP program to monitoring and an oversight of all the regions' schools. However, RENP was the catalyst which gave birth to this board and, thus, it is appropriate to consider the latter within the context of the project.

  In a sense, the major policy responsibilities of the Anacostia Community School Board were completed prior to the beginning of the evaluation in that major policy decisions regarding the structure and operation of the program were incorporated into the RENP proposal submitted by the Anacostia Community School Board to the National Institute of Education. Thus, during the period of the evaluation, the "policy activities" of the regional board in relation to the program essentially consisted of following up or monitoring the implementation of policies set previously, and the generation of new, more minor policies, as needs arose.

• With What Kinds of Policy Issues Does the Regional Board Tend to Deal? - As a rule, the preponderance of "policy issues" acted upon by the Anacostia Community School Board concerned matters of immediate relevance to their constituency. That is, the board tends to act upon issues that can be resolved fairly quickly and whose effects can be immediately perceived by community residents, rather than deal with more "abstract" and "longer term" concerns requiring actions which might not come to fruition for several months. This is probably appropriate, and represents a conscious strategy adopted by the board to, in the words of one of the board members, "prove to them (community residents) that we can do something about their problems". In descending order of frequency, the kinds of policy issues discussed and acted upon by the regional board are as follows:

* Issues pertaining to building and grounds: As a rule community residents interviewed during the course of the evaluation find that "repairs to buildings...and school facilities are important to us...a lot of the time these are safety matters..that have to be acted upon quickly..." Generally, "building and ground issues" are brought before the Anacostia School Board by members of local school boards who have found that matters which relate to rather costly expenditures have not been successfully resolved at the local level.

As stated in an earlier report submitted by the evaluation contractor during the period of the formative evaluation "the reason for (building and grounds) issues being brought to the attention of the ACSB is that local board members perceive the locus of authority for resolving issues involved in large amounts of money residing outside the local level, often several layers up in the school

district hierarchy. Thus, the wider sphere of influence in which the community board tends to operate is often needed to affect successful resolution of such issues".

For a regional school board to spend a disproportionate amount of time resolving building and grounds issues when it is responsible for setting educational policy for the schools of the region may seem inappropriate. However, building and grounds issues are not considered trivial by parents or community members who live in the areas where a school is in urgent need of repairs. Further, the ability of Anacostia School Board to successfully resolve some immediate issues can help demonstrate to community residents that the board is not only attentive - but that it can help resolve matters of local concern. As one of the board members stated when interviewed: "It's true that most of the local issues which we have dealt with the past year have concerned buildings and grounds. This may not seem like much, but you have to understand that these issues are the immediate concerns of the local people... they also provide a way for us to prove to local board members that we can do something about their problems...".

* Policy Issues Related to Staffing: In the year prior to the evaluation, the District of Columbia Public School System mandated an "equalization" policy. One of the implications of this policy was that administrative positions would be "frozen" by the district and existing administrators would be transferred to newly constructed schools to achieve a "balance" of administrative personnel throughout the region. The transfer of popular administrators, particularly those who ardently supported RENP within their schools was often a matter of pressing concern for local community residents. Thus, over the past year, the Anacostia Community School Board has become ever-more involved in problems regarding

transfer of popular or key administrators. As a rule they have been successful in bringing pressure to bear upon the larger school system to retain administrators within their original schools and thus to prevent such transfer. Again, this is the kind of issue which community residents can perceive as having rather immediate results and is a further demonstration that the ACSB "can do" something about educationally-related community problems.

* "Purely Academic" Issues: During the course of the evaluation, observers were able to note only two instances in which the board became involved with such issues. The first concerned the case of a school building principal who wished to change the hours during which school would be open - an action opposed by a majority of parents within the schools. The second case concerned the allocation of RENP resource materials to participating schools. The question raised was whether each school was receiving its fair share of such materials. In both instances, the ACSB was able to resolve such issues to the satisfaction of community residents. In the first instance, the regional board brought sufficient pressure to bear upon the principal such that she rescinded her decision to change the hours during which a school would be open. In the second instance, the ACSB, by working through the District of Columbia Public School System hierachy was able to insure that RENP materials, specifically those designed for math labs and reading centers were equitably distributed among the schools.

The strategy adopted by the ACSB dealing with the policy-related issues has, in the words of two ACSB members, been to "deal with the most pressing stuff like building and grounds issues first...and...once we've proved we should be

taken seriously to move on to more 'heavy'...academic matters". Thus, the ACSB has begun to demonstrate to community residents, and presumably to the District of Columbia Public School System that it is an effective problem solving body which can effectively address educationally relevant concerns of community residents.

* Regarding Citizen Paricipation: As stated, during the course of the evaluation, three regional school board meetings were observed. The <u>average</u> number of community residents who were not members of the regional school board in attendance at each of these meetings was twenty-five. As a rule, discussions with those in attendance at the meetings revealed that they had come because they had "pressing" matters to bring before the board or because, they knew that issues with which they were concerned may be discussed by the board during that meeting. Citizen attendance at local school board meetings however, is perhaps not the best criterion by which to judge the notion of "citizen involvement" within the activities of the regional school board. Interviews conducted with members of the regional school board strongly indicate that a viable informal communication network among community residents and members of the regional board exists and is utilized frequently by such residents when they have concerns upon which they wish the board to act. Several of the board members indicated that "people here (in the community) call me all the time...they have stuff that they think we should act upon and they want me to know about...my phone is always ringing...people call to tell me about problems and insist that we (the ACSB) do something about them...".

While it is not possible to cite the number of such informal contacts between community members and members of the regional board, it is evident that at least a large number of community residents know who members of the regional school board are, and believe that the latter is an appropriate forum for taking action on issues which concern them. We thus conclude that at least for some community residents the Anacostia Community School Board is perceived as a viable community organization which can "get things done".

DO LOCAL SCHOOL BOARDS MEET REGULARLY, ATTRACT CITIZENS TO MEETINGS AND SET POLICIES?

Yes, they do. Though as was the case with the Anacostia School Board the extent of citizen participation is not clear. During the course of the evaluation, local school boards met, on the average of approximately once every six weeks to discuss issues pertaining to specific schools and take action upon such issues. As was the case with the Anacostia Community School Board, the local school boards are responsible for overseeing and monitoring educational policies within a given school and do not restrict their activities specifically to RENP. However, it must be remembered that the local school boards were constituted as a direct consequence of the RENP program.

With What Kinds of Issues do Local School Boards Tend to Deal?

The hierachy of issues confronted and acted upon by local school boards is similar to those cited for the Anacostia Community School Board. That is, such local boards tend to deal predominately with matters of pressing concern which relate to issues which are soluble within a brief span of time. As boards tend to become more adept at dealing with such issues and "proving their worth" to their constituency, they tend to get involved in more "abstract" issues

pertaining more to "educational policies". Again in descending order of frequency, the types of issue with which local school boards tend to become involved are as follows:

- Issues relating to buildings and grounds - As was the case with Anacostia School Board, issues with which community residents were most vitally concerned were those having to do with what they felt were repairs to school buildings which were needed on an immediate basis. As a rule, such repairs involved the expenditure of minimal amounts of funds and working with the local building principal they were usually able to resolve such matters.

  Again, while "building and grounds issues" may seem rather mundane matters for a policy-making body to be concerned about, such is actually not the case. First, because such issues, if successfully resolved become visible and tangible proofs that the local school board can do something about pressing concerns. Also, such issues represent a common focus upon which principals, parents and community residents can agree. As one parent, serving on a local school board stated the point: "You can't disagree that the paint is flaking or the pipe is burst, and you can't disagree that the playground is littered with broken glass...(but)...you can disagree about which program is best, or how this or that subject can be best taught." Thus, the building and grounds issues serve not only as tangible proof of the effectiveness of local school boards to community residents, but also serve as a starting place for the generation of a viable partnership between "professional educators" (such as principals), and the parents and community residents seeking to become involved in matters of setting local educational policy.
- Issues pertaining to the safety and health of students attending a particular school - Again issues which deal with the physical safety of students either within the school, or their travels to and from school can, if successfully resolved,

provide tangible evidence that the local school board is effective, and provides a further forum within which community residents and school personnel can agree. Issues pertaining to students safety and health can and do vary from school to school; some pertain to traffic problems in a given school neighborhood, some have to do with the quality and cost of school lunches, and still other have to do with the provision of health services to students within a particular school. Issues regarding students' health and safety were as a rule successfully resolved by parents serving on local school boards by organizing other parents to bring pressure to bear upon individuals within the District of Columbia political hierachy.

- Issues concerning the purchase or distribution of materials and books. This is similar to one of the issues addressed by the Anacostia Community School Board and concerns the perceptions on the part of several local school boards, that their schools were not getting a "fair share" of curriculum materials. Often, such materials pertain directly to the RENP program. Local school boards have been quite successful in resolving such issues through a variety of strategies, all of which concern organizing parents and students within the school to "do something" about the problem. In some instances, parents band together and hold fund raising activities to generate sufficient funds to purchase materials which they believe are important to the school. In other cases, parents band together to contact individuals within the District of Columbia Public School System to see what can be done about a given problem. Not only do such issues indicate that parents can organize around a common concern, but issues such as distribution of important learning materials tend to provide still a third point upon which school personnel and parents can agree.

- Issues which pertain to staffing - As was the case with the Anacostia Community School Board, most of the issues within this area dealt with by local school boards had to do with the "equalization" mandate of the District of Columbia Public School System. While the ACSB concerned itself with matters pertaining to reallocation of administrators, local school boards tended to concern themselves with matters pertaining to reallocation of instructional personnel, such as the "forced transfer" of popular teachers from one school to another. Again, as in the issues discussed above the strategy usually adopted by local school boards was to organize parent networks to write letters and make telephone calls to appropriate officials within the District of Columbia Public School System. Again, as a rule, the local school boards were successful in retaining teachers at their original schools. Issues pertaining to staffing represented still another instance of an area within which local school personnel and parents or local community residents could begin to form a working partnership and develop mutual respect.
- Issues which pertain to the quality of school academic programs and administration - These issues differ qualitatively from the issues cited above in that they are "more abstract" and provide more room for disagreement among parents and/or community residents. Most of the issues pertaining to academic quality were resolved by local school boards in seeking a compromise position between their wishes and the wishes of individual school principals if the two were in conflict. Essentially, parents serving on local school boards continually asked for a "greater voice" in making decisions which affect programs in a particular school. These issues, which are beginning to occur more frequently during local school board meetings, represent a substantial movement by parents into the setting of actual academic policies.

• Issues which pertain to increasing parental involvement. This is a matter of pressing concern to most local school boards who are continually trying to develop strategies to develop a broad base of parental involvement in the schools. Parents serving on local school boards who were interviewed feel that there is a direct correspondence between the number of parents who become "involved in school activities" and the likelihood that neighborhood schools would become increasingly more sensitive to "community needs". In relation to such issues, various local school boards develop different strategies for increasing parent involvement. Some wish to develop a more effective "communications network" between local school administrators and parents of students within a particular school; others wish to develop strategies for getting parents to commit some of their time to act as classroom visitors or chaperones of playground activities and trips; still other local school boards tried to actively solicit parental support for fund raising activities to try to generate money for the purchase of materials needed by a particular school.

In general, local school boards seem to be achieving some degree of success in establishing better communications that work between schools and parents by assuming responsibility for the distribution of newsletters, leaflets and pamphlets describing school activities or particularly innovative programs. Strategies for more directly involving parents in the daily activities of the school, have, in some cases been successful and others not so. However, issues relating to increased parental involvement continued to be debated on local school boards and additional strategies continued to be developed.

It is apparent from the examples cited above that local school boards are, in most instances, viable and actively involved in the lives of their schools. As was the case with regional school boards, it is likely that as the local school boards become ever more adept at solving

immediate crises, they will begin to devote more and more time to more "abstract" policy-related concerns. It is also apparent that, with few exceptions, there is an emerging partnership between parents serving on local school boards and school building principals. Presumably, as mutual trust continues to develop, principals will offer ever declining resistence to including parents in making educational policy decisions.

Regarding Citizen Participation in the Activities of Local School Boards

There is no doubt that a great many citizens within the immediate neighborhood of a given school do become involved in activities of local school boards. The extent of such participation is difficult to define though the nature of it has been described above. Observational data collected during the evaluation indicate that, at any given meeting of a local school board, six to eight parents or community members who are not members of such boards are likely to be in attendance. Such minimal numbers, however, do not begin to assess the extent of citizen participation in that, as cited earlier, neighborhood parents and residents can and do often band together to take action on matters of pressing concern, actions often initiated by local school boards. Thus it appears that local school board members, particularly parents on local school boards, have developed an informal communications network to organize parents around pressing concerns. Convincing parents to write letters or make telephone calls to appropriate officials is one measure of citizen involvement.

ARE THERE "POLICY-SETTING COMMITTEES" AND DO THEY FUNCTION?

Yes, there are, particularly at the level of the regional school board. As stated earlier, the responsibilities of the regional school board extends far beyond the administration of RENP, to the activities of all schools within the Anacostia region of Washington, D. C. Over the years, as RENP has become "more institutionalized" and as the responsibilities of the ACSB have become expanded, policy-setting responsibility

pertaining to RENP has been designated to a "RENP Committee" constituted of ten members of the regional board. While this committee has no legal powers, it has become the locus of almost all important policy generation pertaining to the program. Once generated, such policies are brought by the committee to the attention of the ACSB which then decides what actions should be taken.

During the course of the evaluation, the RENP committee assumed responsibilities for monitoring the daily activities of the program by staying in touch, on a frequent basis, with RENP administrative personnel. Usually such contacts occurred on an ad hoc rather than a formal basis and committee personnel do not have official responsibility for monitoring any given aspect of the programs. Yet communication between such personnel and RENP administrators occurs on an almost daily basis and it is clear that members of the RENP committee do feel responsible for keeping abreast of program activities.

It should be noted that RENP committee does not provide a formal avenue for increased citizen participation in that the committee is solely comprised of members of the regional board. However, as was the case with the regional board and the local school boards, individual members of the RENP committee seem to be well-known in the community and have established informal communication networks which allow local community residents access to committee members.

The specific committees also exist at the level of the local school boards, though most often they are formed to deal with a specific situation or problem and disband shortly after the problem has been solved. In the case of the need to organize parents around a particular concern for example, two or three parents may constitute a "committee" to develop strategies for informing a sufficient number of community residents about the problem and to suggest to such residents ways in which the problem can be handled.

ARE THE ATTITUDES OF PARENTS AND/OR COMMUNITY RESIDENTS IMPROVED AS A RESULT OF THEIR INVOLVEMENT IN RENP?

This is the most difficult question to answer since we cannot be certain what the attitudes of parents and other community residents were toward the regional schools prior to the existence of RENP. What we do have however, are some interview data, with some parents and some community residents which suggest that, as a rule, those who have become involved within the program in one way or another have changed their attitudes in a positive direction. Such changes in attitudes among various groups of community residents are briefly described below.

- Regarding Parents Who Serve as Aides - Over the course of the past two years many community residents have been trained to work with students as teacher aides. While no systematic interviews were conducted with the aides, several informal interviews were conducted with this group during the conduct of both the formative and summative phases of the evaluation. As might be expected, these data suggest that since the inception of RENP, the regional schools have begun to be more responsive to the needs of the community. Aides further report that their attitude toward the program is extremely positive because as one aide put it: "We are trying to do something for our kids...we think we know what our kids need and we are trying to give to them...". Aides who were interviewed also reported a more positive attitude toward the regional schools in general because, they felt that RENP provided a starting point for residents of the region to have greater input into the regional educational establishment.
- Regarding Parents Who Serve on the Regional School Boards and Local School Boards - Here again it is not surprising to note that members of local school boards and of the Anacostia Community School Board who were interviewed had extremely positive attitudes toward the program, and felt that the regional schools in general were becoming "more responsive" to community needs. As the following composite quotation

indicates, many community residents feel RENP has had an impact on making schools more accountable to local citizens: "Before (RENP) we weren't together...we didn't have any voice about what was happening in our own schools...we've developed a power base now...they (District of Columbia Public School System) have got to listen to us now...we represent a lot of people...".

Again, it is not surprising that the "RENP Power Structure" of community residents should feel positive about a program which they helped develop and which assisted them in gaining a political power base for input into the regional education decision-making process.

- Regarding Parents and Community Residents Who Are Not "Formally" Involved with the Project - Whether or not the attitudes of the community "in general" have changed as a function of RENP is not clear. What is clear however, is that community residents who attend meetings of the regional or local school boards feel that schools are becoming more responsive to community desires and in general are developing a more positive attitude toward the schools. As several community residents, interviewed after meetings of the regional and local school boards indicated: "At least we have some place to come...with problems or suggestions...I've got a whole list of people I can call when I don't like something that's happening in my child's school...I think they (Anacostia Community School Board and local school board members) are really trying to do a job...they are trying to make sure that our children get what they need...". Thus, at least some community residents feel that because of RENP the schools are being more responsive to community needs. Whether or not this holds true for the "community" in general is not known. Clearly, community organizers feel that the attitudes of parents with whom they come into contact have improved as witnessed by the following quotation extracted from informal interviews with five community organizers: "I think

they (parents) know we are really trying to do a job... they appreciate what we are trying to do and how tough it is...I'm beginning to see more interest from my parents... and...I think they feel schools are really trying to help their kids...I think they (parents) see this as a community program...and they support it...". Admittedly, the evidence on "improved attitudes" regarding the community in general is at best sketchy. However, those community residents most closely involved with the program do express positive attitudes about the schools.

DO PARENTS SERVE AS VOLUNTEERS IN THE CLASSROOMS?

As a rule they do not. While parents are encouraged by program administrators, community organizers and teachers to volunteer time to serve in the classroom, parental participation at the classroom is notably absent. During the course of the evaluation, across all observations which were conducted no parental volunteers were in evidence. Interviews with teachers corroborate that it is extremely difficult to get parents to volunteer such time. As one teacher aptly phrased it: "It's difficult to get parents to come in during the day...a lot of them have jobs and other responsibilities...we can't pay them so they don't come...".

Interviews with parents who attend local school board meetings or meetings of the Anacostia Community School Board tend to confirm the point made above. Namely, that given the absence of paid positions, and time constraints, parents find it extremely difficult to volunteer their time on a regular basis.

HAVE COMMUNITY ORGANIZERS REFERRED PARENTS TO OTHER AGENCIES?

As a rule, they have, though the number of parents referred and the effects of such referral are not known. As stated earlier, RENP

serves approximately 4,000 students, and each community organizer is responsible for two schools within the region. Thus it is unreasonable to expect that community organizers would even have contact with the majority of "potential clients" at their schools. Interviews with community organizers suggest that usually contact is initiated on an "as needed" basis, either by parents, who call friends on the local boards or regional school board, or in some cases principals, and are ultimately referred to community organizers. The community organizers report that they have been "in contact" with approximately thirty-five to forty parents per year. Some of these contacts occur only once and other are sustained over time. As one community organizer phrased the situation: "There are so many kids...I just don't have the time to deal with all their families...usually, parents want to know how their child is doing in school...I try to use this contact to find out...if parents need other services..sometimes they do...I try to refer them to other agencies...but...usually... I don't have the time to follow up...".

Referring parents to social service agencies within the region or the District of Columbia is only one among several of the responsibilities undertaken by the community organizers. It should come as no surprise, therefore, that most of the community organizers interviewed indicate that they maintain "no regular" contact with the majority of families within their schools. It is also apparent that some referrals have taken place though the extent of the referral services provided by community organizers is simply impossible to determine.

WHAT HAVE WE SAID SO FAR?

Has the parent/community involvement component of RENP been "successful"? As stated at the beginning of this chapter it is a difficult, and perhaps impossible question to answer. There is no doubt, however, that the various approaches utilized by RENP to promote

such involvement have had some impact upon at least certain members of the community. For example:

- Some parents and community residents have become effective as policy-makers and problem solvers.
- Community residents who were formerly involved with the project do appear to hold a more positive attitude toward the schools then they did prior to their contact with the project.
- Some parents and community residents feel that schools are making an effort to become more responsive to the needs of the community.

Perhaps more important than the above, there is evidence to suggest that some of the approaches utilized by RENP to involve parents and community residents in the operations of the school have become permanent and will continue to have an impact. For example:

- The regional school board is now a permanent fixture in Anacostia and continues to oversee all schools in the region.
- Local school boards are still operating at each of the RENP schools.
- The District of Columbia Public School System has hired most of the community residents who are working as teacher aides. While it is not clear at this point if the aides position will become permanent, there is still at least a short term commitment on the part of the Public School System to hire community residents to work within the schools.

The data regarding parent/community involvement are not conclusive. They do suggest, however, that the several approaches utilized by RENP may be appropriate vehicles for involving parents and community residents within the school system in several roles and at different levels. For example, there is some evidence to suggest that if parents

and community residents participate in the development of a particular project like RENP, they are likely to feel a sense of "ownership" of the program. Perhaps the involvement generated by and around that program may carry over into other school programs and the school district at large as well.

CHAPTER IX

HOW MUCH DOES IT COST?[5]

As previously described, the Response to Educational Needs Project (RENP) is a compensatory education program which focuses on training teachers as a vehicle for promoting student achievement. It is organized into three components: Reading training, Mathematics training and Parent/Community involvement. Training in Reading and Mathematics is carried out through school-based laboratories devoted to each subject area. The Parent/Community involvement component attempts to promote "active parental and community participation in educational programs and issues" through a staff of community organizers and other avenues.

In September 1976, Richard A. Gibboney Associates, Inc., awarded a subcontract to RMC Research Corporation to perform cost studies of RENP. This chapter presents the results of this cost analysis as it was conducted during the focus on the 1976-1977 year is appropriate for several reasons:[6]

- At the present time, RENP represents the maturation of its program concept. Consequently, the program currently operated is of greatest interest to decision-makers considering replication;
- The resource approach to cost analysis cannot be applied in this instance to costing previous years. Resource-based cost estimates depend on accurate resource inventories that are impossible to establish from RENP or DCPS records for past years.

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5. D. W. Jackson, Seventh Quarterly Report on the Progress and Activities of the RENP (Washington, D. C.: Response to Educational Needs Program, 1976).
6. Errecart, Michael T.; Cost Analysis of the Response to Educational Needs Project, RMC Research Corp. UR-322, Mary 1977.

- Budget analysis of previous years could be attempted; however, it would not provide information not already available, nor would the estimates necessarily be compatible with the 1976-77 cost estimates.

It should be noted that RMC's analysis somewhat idealizes RENP, in that adjustments were made for possible distortions appearing in the program as a consequence of NIE's termination of RENP support. For example, as a result of the imminent termination date, certain staff vacancies have arisen that would not otherwise have occurred. Adjustments have been made for these distortions: by assuming all RENP-paid staff are hired on a full-time, 12-months-a-year basis; and by assuming that RENP is fully staffed. Discussions with RENP leaders by the subcontractor have indicated that these assumptions appear to be fair.

This chapter presents the results of the cost analysis using description data, analyses and tables extracted from several reports submitted by RMC to Richard A. Gibboney Associates (Errecart, May 1977; Errecart, January 1978; and Errecart, February 1978). A description of the Cost Analysis procedures used by RMC is contained in Appendix Q.

As stated by RMC in their February 1978 report, the purpose of a cost-effectiveness analysis is to provide a systematic way for policy-makers to choose among programs competing for limited resources. Unfortunately, it is not possible to say exactly what a cost-effectiveness analysis is, as it varies from application to application depending upon the data available and the objectives of the policy-makers. As Dr. Levin[7] says:

> "...there is no standard set of applied rules that can be mastered to carry out cost-effectiveness comparisons. Rather,

[7] Levin, H. M., "Cost Effectiveness in Educational Research," in Guttentag and Strueing (eds.). Handbook of Evaluation Research (Beverly Hills, California; SAGE Publications, 1975), p. 91.

there is a set of principles and considerations that must be combined with sensitivity, ingenuity and intuition on the part of the analyst".

THE COST DATA

At current operating levels, the annual cost of RENP is approximately $1.921 million. Excluding the free classroom space donated by the District of Columbia Public Schools (DCPS), the cost is about $1.790 million.

RENP currently operates twenty laboratories. The data indicates that, if the number of laboratories is increased or decreased by a small number (five or less), the change in the actual cost of RENP would be about $73,600 per laboratory. RENP's fixed costs approximate $450,000.

RENP serves 108 teachers with the reading laboratories and 129 teachers with the mathematics laboratories. The total cost to RENP for each teacher trained in reading is $8,909. The total cost to RENP for each teacher trained in mathematics is $7,433. It costs $16,342 to train a teacher in both subject areas.

The analysis of resources not provided by RENP indicates that the average cost per class of the normal educational program in the District of Columbia is approximately $34,429. Table 18 presents Non-RENP costs, in both RENP and Non-RENP schools by major cost categories. The data indicate that the District of Columbia Schools provided approximately $34,265 per class to each RENP class and $34,424 to each Non-RENP class in the study. However, the average class size in the RENP schools was 27.7, compared to 29.9 in the Non-RENP schools. On a per student basis, DCPS funding amounted to $1,237 per RENP student and $1,187 per Non-RENP student. This difference in funding level was not statistically significant and there is no basis to infer that the effects of RENP were mitigated because a portion of the RENP resources supplanted DCPS resources.

TABLE 18.

AVERAGE COSTS PER CLASS, EXCLUDING RENP[a,b]
(dollars)

	Experimental Schools	Control Schools	Significant at .10[c]
Personnel			
Classroom Teachers	16,737 (2,414)	16,494 (2,474)	No
Other Instructional Staff	4,379 (979)	5,013 (1,372)	No
Non-Instructional Staff	1,415 (552)	1,186 (265)	No
Administrative	2,461 (548)	2,297 (300)	No
Facilities	6,543 (0)	6,543 (0)	NA
Textbooks	81 (17)	110 (25)	No
Library Books	95 (42)	95 (32)	No
Supplies and Material	421 (171)	470 (88)	No
Meals	1,718 (616)	1,751 (385)	No
Field Trips	415 (238)	465 (207)	No
Total	34,265 (2,803)	34,424 (2,891)	No

a. Using the school as the unit of observation

b. Standard deviation is in parentheses.

c. Based on t test.

(FROM RMC REPORT UR-330, Jan. 1978)

Given that no supplanting effect has been shown, we can assume that the additional cost of RENP is more or less the cost of the resources directly provided by RENP.

Cost By Component

The primary purpose of this section is to describe the organizational structure of RENP and to attach costs to that structure. Because personnel account for most of RENP's expenses, an organizational analysis is essentially equivalent to a RENP resource profile. This information is probably of greatest utility to decision-makers considering adoption, in whole or in part, of the RENP model.

- RENP Organization - RENP is structured into four components: management, reading, mathematics and parent/community involvement. Overall responsibility for day-to-day operations is vested in a project director. Reporting directly to the director are the assistant directors in charge of reading, mathematics, parent/community involvement, and management services. Others reporting to him are charged with research and evaluation, public information and resource coordination. One secretary supports the director.

  The assistant director for management services supervises an account clerk, an administrative assistant for personnel, a receptionist, an office services supervisor, and a machine operator.

  The assistant director for reading is supported by a program assistant and a secretary. All other personnel in the reading component are located at the various laboratories.

  Each laboratory consists of a program facilitator and three instructional aides. There are ten reading laboratories - each supporting up to twelve teachers.

  The mathematics component is organized like the reading component.

The parent/community involvement assistant director is supported by two community relations specialists, a program assistant, an administrative assistant, a secretary, and two senior community organizers. The administrative assistant is essentially dedicated to supporting the Anacostia Community School Board. The senior community organizers each coordinate five community organizers. There are ten community organizers. Community organizers are staffed at the rate of one per two laboratories.

- Facilities - RENP is housed in a modern building in Anacostia. Rental fees include all maintenance and utilities. In Table 19 the annual rental has been allocated evenly among the four components. There are no other administrative spaces of consequence.

- Equipment - Equipment located at the RENP headquarters was costed and allocated among the four components. This equipment consists primarily of office systems and furniture. Most of the office equipment is owned by RENP. DCPS has supplied about two-thirds of the desks and furnishings.

- Miscellaneous Cost Categories - Amounts appearing under travel, office supplies and materials, consultants, and training are based on the Phase II budget for RENP approved by NIE. Because that budget was based on a 13-month program, care was taken to identify which categories should be adjusted and which should not be adjusted when converting to a 12-month year.

- Allocation of Administrative Costs - RENP administrative costs can be directly related to the number of laboratories supported. This applies even to parent/community involvement because it is staffed in proportion to the number of laboratories operated. Table 21 summarizes the costs of Table 19 and distributes them among twenty mathematics and reading laboratories.

TABLE 19

RENP ADMINISTRATIVE COSTS
(dollars)

Cost Category	Management	Reading	Mathematics	Parent/ Community Involvement	Total	Percent of Total
Administrative Personnel	191,716	60,799	60,799	114,417	427,731	89.5
Facilities--Rent	5,960	5,960	5,960	5,960	23,840	4.9
Travel						
Local	1,108	276	138	0	1,522	1.4
Out-of-town	923	1,430	0	700	3,053	.5
Office Equipment	2,139	2,139	2,139	2,139	8,556	1.8
Office Supplies and Materials	2,769	923	502	0	4,194	.9
Consultants	5,000	0	0	0	5,000	.9
Training	369	185	100	200	854	.1
Total	209,984	71,712	69,638	123,416	474,750	

(From RMC Report UR-322, May 1977)

Assuming twelve teachers per laboratory, Table 20 indicates that the RENP administrative burden is approximately $2,000 per teacher trained in reading or mathematics. This does not include the DCPS administrative charge.

• Reading and Mathematics Laboratories - Both reading and mathematics laboratories are considered in this section because of the similar organizational and operational structures involved. Each laboratory is organized around a facilitator supported by three aides. At times, consultant personnel are brought in to handle special problems or to provide specialized training. We found no deviations from this staffing pattern in any of the laboratories.

Each laboratory is located in a normal school classroom. In schools with both reading and mathematics laboratories, the laboratories are operated independently and in different classrooms. Generally, no other facilities are dedicated to RENP laboratories. Because of excess space in one school, the RENP laboratories had expanded beyond one room. We have ignored this additional space because it represents an unusual situation that will not exist in the future.

The laboratories are sparsely equipped. In many cases, the only equipment consists of a single tape recorder. The laboratories are usually furnished as classrooms: twenty to thirty student desks, a table and a teacher's desk is a typical configuration.

We found substantial variation in the quality and quantity of the materials available at the different laboratories. Nevertheless, we did not collect inventory information on the materials at every laboratory because:

TABLE 20

MOST FREQUENTLY USED LABORATORY KITS

Reading Kits

- Sports Close-up
- Improving Comprehensive
- Incredible Series Kit
- Strategies in Study Skills
- Profiles in Black America

Mathematics Kits

- Mr. Math
- Dyna-Math
- Gaining Math Skills
- Individual Instruction in Math
- Telling Time
- The Metric Lab

* many of the materials were created by teachers and laboratory personnel;
* materials costs, when amortized and allocated, represent a very small percentage of laboratory costs, consequently differences between laboratories are even less significant;
* inventories were not available.

Information was collected on what was referred to as a "basic" set of materials for mathematics laboratories (see Table 20). We constructed a similar list of materials for the reading laboratories. The two lists shown in Table 20 formed the basis for the materials cost estimate. Table 21 summarizes the principal costs of a RENP laboratory. Basically, there are two costs of importance: personnel and laboratory space. Although laboratory space is free to RENP, we have included it because it represents an expensive resource that may or may not be free in future RENP replications.

• Community Organizers - The parent/community involvement component is staffed with one community organizer per two RENP laboratories. Each organizer is associated with two laboratories - one in reading and one in mathematics - which may be in one or two schools. The organizers are not assigned space in the schools or anywhere else. They are not given any specific items of equipment, supplies, or materials. Besides the organizers' salaries, there are only three other important cost items: transportation, janitorial services and student services. The janitorial services represent costs borne by RENP to clean up school facilities after local school board and Anacostia Community School Board meetings. Student services funds pay Ballou High students to program a computer to support the parent/community involvement component with mailing lists and other computer products.

Table 21

LABORATORY COSTS

	Cost per Laboratory (dollars)	
	Reading	Mathematics
Personnel		
Facilitator	23,843	23,843
Aides	29,193	29,193
Consultants	220	150
Subtotal	53,256	53,186
Facilities	6,543	6,543
Equipment	44	84
Materials and Supplies	99	100
Miscellaneous	125	25
Total	60,067	59,938

Table 22

COMMUNITY ORGANIZER COSTS

	Cost per Laboratory (dollars)
Personnel	
Community Organizers	5,345
Consultants	75
Janitorial (budget)	510
Student Programs	450
Facilities	0
Equipment	0
Materials and Supplies (budget)	25
Travel and Training	293
Total	6,698

SUMMARY OF RENP COSTS

Table 23 summarizes the annual costs of operating RENP. A DCPS overhead charge of 5.7% has been included as a RENP administrative expense. By including it, we assume that the DCPS is providing services that would have to be purchased otherwise. These services include grant management, budget and expenditures reports and other functions.

The costs as a percentage of the subtotal basically reflect the flow of money into RENP. The data indicate that approximately 30% of the grant is spent in administration, with DCPS receiving 6% and RENP using 24%. It should be noted that many of the costs classified as RENP administration contribute substantially to the program. For example, much of the RENP equipment is classified as administrative, when it is largely devoted to producing mailing, handouts and presentations. A more conservative estimate of RENP administration might include just the general management costs, which account for 12% of the budget. In any case, RENP is devoting between 18% and 30% of its resources to management functions.

Table 24 is another analysis of RENP based on resource categories (including laboratory space costs). It shows that RENP personnel costs account for 85% of the budget, far overshadowing the DCPS administrative charge of 6% and the facilities cost of 8%. If we exclude the laboratory space costs, the percentage of funds devoted to personnel rises to 91%. The two tables basically indicate that equipment, materials, supplies, travel and other minor categories constitute insignificant RENP cost components.

To estimate what it might cost to replicate RENP in other situations, it is necessary to identify the fixed and variable costs in RENP. Referring to Table 23, laboratories, organizers and laboratory space are variable costs. The DCPS overhead charge is variable because

TABLE 23

RENP COSTS BY ORGANIZATIONAL STRUCTURE AND COMPONENT

Category	Percent of Total	Reading (dollars)	Mathematics (dollars)	Parent/ Community Involvement (dollars)	General Management (dollars)	Total (dollars)
Administration						
UCPS	6	--	--	--	112,419	112,419
RENP	24	71,712	69,638	123,416	209,984	474,750
Laboratories	56	535,240	533,950	--	--	1,069,190
Organizers	7	--	--	133,960	--	133,960
Subtotal		606,952	603,588	257,376	322,403	1,790,390
Laboratory Space	5	65,430	65,430	--	--	130,860
Total		672,382	669,018	257,376	322,403	1,921,179

TABLE 24

RENP COSTS BY COST CATEGORY

Category	Cost (dollars)
Personnel	
Professional Staff	1,595,351
Consultants	10,200
Other	19,200
Subtotal	1,628,391
Facilities	154,700
Equipment	9,784
Materials and Supplies	6,784
Travel and Training	12,789
DCPS	112,419
Total	1,921,179

it is based on a percentage of the program costs. RENP administration is partially fixed. Although it is not possible to speculate on how the administrative structure would change for much larger or much smaller replications, it appears that for small changes the administrative costs in reading, mathematics and management can be taken to be fixed. Parent/community involvement administration is partially variable because its staffs senior community organizers in relation to the number of community organizers (1:5). Based on these assumptions, $73,600n + $450,000 reasonably approximates the total cost of RENP - where n is the total number of laboratories operated (assuming equal numbers of mathematic and reading laboratories). The additional cost of a laboratory is about $73,600. Fixed costs comprise about $450,000.

IS RENP COST-EFFECTIVE?

We pose that question in order to remind the reader that only the policy-maker can really answer the question, because only policy-makers are in a position to judge which measures of effectiveness are most appropriate for their needs.

Was It Worth It?

Table 25 summarizes the cost per class and student by level of service. RENP cost about $630 more per student within DCPS than is normally allocated on a per capita basis. Is this additional investment worthwhile? That depends on the needs and values of educational decision-makers. We can only indicate, as we have in Chapters VI through VIII, what the return on such investment was in this case.

Whatever the ultimate decision is regarding the "cost effectiveness" of RENP, it is likely that the cost of operating the program within a given district may vary from the cost presented herein. As stated earlier, RENP represents a "service delivery system": a process rather than

TABLE 25.

TOTAL COSTS BY LEVEL OF SERVICE:
PER CLASS AND PER STUDENT BASES

Total Cost for Each Class Served By:	Cost Per Class	Cost Per Student
Reading Labs, ½ P/CI Organizer	8,668	326
Mathematics Labs, ½ P/CI Organizer	7,996	304
Reading and Mathematics Labs, One P/CI Organizer	16,664	630

(From RMC REPORT UR-322, May 1977)

a paradigm. Some districts wishing to implement the RENP approach may discover that, by the allocating existing resources, some of the RENP techniques could be adopted at little additional cost. For example, districts which currently utilize "reading or math specialist" to work with students needing remedial instruction might be able to reconceptualize such positions into roles similiar to those of program facilitators. Materials currently utilized by reading specialist or math specialists could be concentrated in specific areas of the schools similiar to "math labs" and "reading centers" in RENP.

The question which still remains regarding cost effectiveness is whether the $630 per student, or $16,664 additional cost per class would not have generated beneficial results for students, teachers and the community had such money been invested in some alternative approach such as some combination of direct income transfer, hiring additional staff, sending teachers to nearby colleges to receive training, or providing intensive remedial instruction to students most in need through the use of reading and mathematics specialists. There is no way of assessing the relative efficacies of these, or other alternatives compared to the RENP approach.

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